INCENTIVE-BASED MAINTENANCE OF LAND REGISTRATION SYSTEMS

BY

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Property is a powerful institution which a society weaves through its legal, economic, and political systems. In high income countries, formal recognition of property interests appears to bring considerable benefits. Public access to registries reduces information asymmetry while protection afforded by various property systems gives transacting parties confidence that their interests will be safeguarded. Governments also benefit: access to property information enables administrations to improve decision-making and to implement revenue-generating services. In low income countries, most property interests are held informally, i.e., outside the formal legal, economic, and political sectors of society. Unsurprisingly, the design and implementation of land registration systems have been included in projects aimed at fostering development in low income countries. With few exceptions, registration projects in low income countries have failed to provide the expected benefits, for example, access to credit has not increased. Moreover, people frequently failed to register transactions in the newly created registers, thus rendering the costly compilation of registers a pointless exercise.

This research addresses a problem central to the on-going success of registration projects in low income countries: how can registration systems be maintained so that the initial investment is not lost but instead grows. In doing so, it uses an analytical framework encompassing a formal/informal sector construct together with one of security and risk management to investigate what a transformation from informal-to-formal property means, and how ownership and credit risks change when informal property is formalized. This analysis is used to develop a conceptual model relating security, credit, and registration systems. The conclusions suggest several shifts which should be made to conventional thinking regarding titling and registration in low income countries.

CHAPTER 1
INTRODUCTION

Land Registration as a Risk Management Option for Low Income Countries

We live in an uncertain world; the results of many of our actions are difficult to forecast. To bring some certainty to our lives we use a number of strategies. For example, we seek information in order to make informed decisions. And we seek ways to protect ourselves in case our decisions are flawed. When it comes to property transactions, registration systems can play a role in bringing increased certainty. By acting as information systems, property registries reduce asymmetry of information between parties in a property transaction. In simple terms, registration systems help to level the playing field. But registration systems are more than just information repositories. Property interests, as opposed to mere possession, become enforceable claims. Registration systems also bring with them an element of protection for those who hold registered interests.

In high income countries, registration systems and their supporting infrastructure are long-standing institutions. The information held within land registration systems serves as a valuable resource for individual citizens, private corporations, and government agencies. A prospective buyer or creditor can determine relatively easily whether the person purporting to hold a parcel of land is indeed the owner. Holders of registered interests (such as owners and creditors) can defend their claims against others and can seek recourse if they are wronged. This combination of information and protection allows resources to be allocated efficiently. As a result, land and credit markets grow, giving people more choices. The combination of information and protection benefits governments as well. Government agencies cannot design and enforce plans to protect valuable

resources (e.g., sites with environmental or cultural significance) unless they know who has authority over those resources. And they cannot mount an effective program to increase revenues (e.g., by taxing land ownership, use, or sale) unless they know who owns and uses the land.

The benefits of formal registration of property interests appear so obvious in high income countries that it is likely that the vast majority of users of public registries would regard with disapproval any proposal to eliminate property registration systems. It is not surprising then, that the design and implementation of registration systems have been included in projects aimed at fostering development in low income countries. In a few cases registration has been the core component of such development projects; in most cases, however, registration has represented a minor component of projects designed to provide irrigated water to farmers, to rehabilitate forests, and so on (Wachter and English 1992). As the previous statement indicates, virtually all titling and registration efforts have concentrated on property rights in rural lands.

With few exceptions, registration projects in low income countries have failed to provide the expected benefits. For example, registered owners often did not benefit greatly, or even at all, from improved access to credit from the private sector and attempts to provide subsidized credit by governments proved unsustainable (Migot-Adholla et al. 1991; Adams and von Pischke 1994). Moreover, people frequently failed to register transactions in the newly created registries, for example, sales and inheritances were not reflected in the registers (Haugerud 1989; Atwood 1990; Stanfield et al. 1990). As the value of information registered in the systems declined, problems of information asymmetry increased. Discrepancies between registered information and the reality of ownership on the ground created ambiguities to be exploited. Compiling land registers is a costly exercise yet this great expenditure often failed to increase certainty; in some cases it actually increased uncertainty (Haugerud 1983; 1989).

Consequently, a more cautious approach to registration in low income countries has been advocated by some. For example, it is suggested that registration be considered in areas of high population density, where traditional tenure systems and dispute resolution systems are absent or weak, or where major project interventions (such as irrigation or tree crop projects) are planned (Binswanger and Deininger 1994; Migot-Adholla et al. 1991). Such recommendations may be valid for deciding where to undertake projects of "first registration" (i.e., bringing information on parcels and ownership into a formal registration system for the first time). But by themselves those recommendations do not explain why people would continue to register property transactions subsequent to first registration. This research takes this concern as a starting point. Because of the high costs of titling and registering land (including the design, development, and implementation of registration systems), such projects should be considered only if the newly compiled registers can be maintained, that is, they can be and are updated when transactions occur.

This research addresses a problem central to the ongoing-success of registration projects in low income countries: how can registration systems be maintained so that the initial investment in their development is not lost but instead grows.

The problem of maintaining registration systems is addressed using an analytical framework that employs the constructs of formal and informal sectors in conjunction with the constructs of security and risk management. On the one hand, the analysis is framed in terms of formal and informal property. That is, what does a transformation from formal-to-informal property mean? The formal and informal sectors are complex and imprecise constructs but they have utility in this analysis. In low income countries, much of the population lives and works in the informal sector. The approach taken in this research is that, to a large extent, the informal sector exists because of inappropriate formal laws. For example, the high costs associated with living in a formally recognized residential area and operating a formally recognized enterprise may force a person to live and work in the informal sector (de Soto 1989). Consequently, passing a law to make registration

compulsory will not work if the transaction costs are high; it may merely serve to make more property transactions informal. If coercion cannot be relied upon to update the registration system, then incentives must have a role to play. On the other hand, the analysis is framed around issues of security and risk management. How do ownership and lending risks change when informal property is formalized? This leads to an analysis of the extent to which registration systems, land markets, and credit markets reinforce each other.

By focusing on land and credit markets the research does not address low income countries in general but rather the subset of countries with emerging market economies. To adopt Karl Polanyi's terminology, three categories of transactional modes may be identified: reciprocity, redistributive, and market exchange (Polyani 1944, 43-55; Dalton 1968). In a reciprocity mode, transactions are based on kinship and friendship and involve obligatory gift-giving. In a redistribution mode, transactions are based on political or religious affiliations and involve obligatory payments to, and disbursements by, a central authority. In a market exchange mode, transactions are conducted through free market sale and purchase. This research places emphasis on addressing the problem of providing incentives for registering market economy transactions. In doing so, it does not dismiss the need to introduce registration systems to improve security for reasons of social justice, for example to protect rights of "indigenous communities," which use a reciprocity transactional mode, from being usurped by others. But it does suggest that because of the incentives problem, registration systems driven by market forces will require a lower level of state subsidization than when they are promoted purely for reasons of social justice. Providing formalization services and managing registry offices incur substantial costs. This research indicates that when a registration system increases the volume of business of private sector lenders, some lenders may invest, together with the state, in increasing the amount of formal property. Mortgage-related transactions involving these lenders may serve to subsidize other transactions.

Definitions

For the purpose of this research, property is a relationship among people with respect to objects. It is a construct that societies use when organizing themselves: it is central to a society's legal, economic, and political systems. Property encompasses advantageous and disadvantageous interests, for example, the rights, duties, and powers to undertake various actions defined by societal relationships.

Formal property interests are defined to be those interests that are explicitly acknowledged by the state and that may be protected using legal means. Informal property lacks such official recognition and protection. More narrowly, formal property interests are regarded as those interests registered in a public registry (with the exception of overriding interests that do not have to be registered to retain priority, e.g., powers of expropriation, taxation, and land use limitations). Conflating "formal" with "registered" may be problematic in jurisdictions where registration is not compulsory; here a person may hold privately conveyed, unregistered interests that still enjoy some legal protection. However, this interpretation is useful in the context of this research; that is, public access to information about transactions (by virtue of their registration) is an important factor in the development of land and credit markets.

Property is an institution. This research adopts North's definition of institutions as constraints that humans impose on themselves, i.e., rules of the game (North 1990, 3). An institution's major role in society is thus to reduce uncertainty by establishing a stable (but neither unchanging nor necessarily efficient) structure to society's relationships. Organizations, in this view, are the players in the game.

In the context of property interests, security implies certainty. For the purposes of this research, security of a person's property interests is regarded as the degree of confidence that the person's claim to those interests will be first recognized by others in general and, second, enforced in cases of specific challenges. The counterpoint of security is risk; the greater the risk, the lower the security. Risk is regarded here to have the

following three elements: indeterminacy (i.e., the outcome is in question); loss (i.e., at least one of the possible outcomes is undesirable); and choice (i.e., the person exposed to the risk can take actions which affect the chance of loss and/or its severity). A risk-inflicted loss incurs costs, but so do efforts to minimize risk. Risk management thus looks at optimizing risks by minimizing all risk-related costs (i.e., the costs of expected losses and the costs of lessening exposure to risk).

Research Objectives and Methodology

To address the problem of maintenance of land registration systems, the research objectives are to systematically examine the role that formal and informal property institutions and administrative arrangements play in emerging market economies; to systematically examine risk management strategies in land and credit markets; and to develop an incentive-driven model for registration systems.

This research leads to the conclusion that the deliberate design of a network of property institutions may facilitate more rapid development in low income countries than if the linkages between those institutions are left to chance. Such a network of property institutions integrates information and financial services. Institutions dealing with information systems are clustered into three main groups: registries, courts, and ratings. Those dealing with financial services are in two main groups: insurance and credit. This research indicates that, under appropriate circumstances, access to credit may serve as a strong incentive to register transactions. For this to occur, registration should facilitate access to credit. To facilitate updating of land registries, land administration arrangements should be designed to facilitate access to credit. This underscores the need to address security and risk management concerns of creditors as well as owners. An emphasis on credit further underscores the need to look at property administration as a whole, i.e., real property registration systems should not be viewed in isolation from personal property registration systems.

This research integrates three themes. First, property issues (both real and personal) are analyzed and differences between formal and informal property are identified. Second, the administrative arrangements of property (real/personal; formal/informal) are then identified. Third, the effect of these administrative arrangements are then evaluated in terms of managing security and risk in land markets and credit markets. Security may be provided by formal and informal sources. By integrating these three themes, this research aims at identifying the effects that formal land registration systems may have on the behavior of owners and creditors and hence the incentives that may encourage people to update registration systems.

The literature review conducted as part of this research is underpinned by field work in several countries which have recently introduced innovations in property-related institutions. Peru represents an important case study for a number of reasons. Although Peruvian reforms are relatively recent and must still stand the test of time, they indicate that registration can play a valuable role in development and that incentives for continued registration can be developed. Importantly, the fact that the reforms occurred during a period of great political, economic, and social instability suggests that the results may be replicated elsewhere. Less time was spent in two other jurisdictions, New Brunswick in Canada and Namibia, although they both yielded valuable insights regarding the development of incentive-based registration systems.

Research Contribution and Organization

This research makes an initial contribution by addressing the question of maintenance of land registration systems. Land registration efforts in low income countries are invariably analyzed in terms of first registration, i.e., bringing information on parcels and ownership into a formal registration system for the first time. They are often addressed in terms of technical issues, for example, the application of different surveying and mapping technologies, or the use of information in registration systems by government

agencies and others. At times land registration is analyzed in terms of narrow disciplines, for example, legal (i.e., conveyancing), public finances (i.e., taxation), or information systems (e.g., information technology) set within particular jurisdictions. This research fills a void by looking beyond the issues of first registration. It does this by investigating how registration systems can be maintained so that the initial investment in their design and development is not lost but instead grows. If registration systems are maintained, the information contained within them reflects reality. This helps to ensure that registered information used by government agencies and others has value.

Another original contribution of this research comes from the approach used in the analysis. As noted above, this research used an analytical framework employing the constructs of informal and formal sectors in conjunction with the constructs of security and risk management. This is an unconventional approach and consequently this research yields new insights regarding the design of land registration systems. The conclusions suggest a number of shifts which should be made to conventional thinking regarding titling and registration in low income countries.

The research undertaken here provides a synthesis of property registration from a development perspective. Chapter 2 addresses the question of what the role and nature of property interests is in low income countries. It analyzes property-related issues including the role of property and development, the nature of property interests and regimes, the relationship between real and personal property, and the constructs of formal and informal property. Chapter 3 responds to the question of how property interests may be organized and administered. It investigates property institutions and organizations, their functions and processes, and institutional arrangements regarding real and personal property and mortgage markets. Chapter 4 seeks to answer the question of how institutions and administrative arrangements provide certainty. It analyzes security and risk management issues regarding land and credit markets and, in particular, the problems of imperfect information and imperfect enforcement. Chapter 5 addresses the question of whether a

registration system can be responsive to the needs of property owners with low incomes but yet still provide adequate certainty to creditors. It takes Peru as a case study and assesses recent formalization events and outcomes using the analytical framework developed. Chapter 6 responds to the question of how incentives can be provided to ensure that registration systems are updated. It does this by developing a model that relates security, credit, and registration so that they mutually reinforce each another. Chapter 7 presents the research conclusions regarding several shifts that should be made to conventional thinking regarding titling and registration.

CHAPTER 2
PROPERTY RELATED ISSUES

Almost two centuries ago, Jeremy Bentham defined property as the work of law: "Property and law are born together, and die together. Before laws were made there was no property; take away laws and property dies." (Bentham 1981, 51-52). Law is an essential ingredient when it comes to property, and this chapter argues that informal property found in low income countries exists, in large part, because of inappropriate laws. But this research goes beyond the legal perspective that currently dominates many research agendas and instead adopts a broader institutional perspective.

Property is fundamental to modern commercial life; it provides links between a legal system, an economic system, and a political system (Reeve 1986, 7). Indeed, from the seventeenth to the early nineteenth century, property was at the center of political debates as to who should be included or excluded from the benefits of political and economic life, and theorists from Hugo Grotius to Thomas Paine and beyond argued the role of property in "disputes over issues as various as international fishing rights, God's providence, political representation, revolution, primogeniture and entail, enclosure of common fields, and the justice of a return to capital" (Horne 1990, 252). Property is a flexible construct. As Macpherson noted:

> The concept of property has changed more than once, and in more than one way, in the past few centuries. It changed in discernible ways with the rise of capitalism, and it is changing again now with the maturation of capitalism. (Macpherson 1973, 122).

This chapter begins with a general review of the relevance of property to development. It defines property interests in terms of rights, duties, and powers, and then applies these interests in categorizing property regimes as open access, communal, private, and state. Property interests are further analyzed in terms of overriding, overlapping,

complementary, and competing interests. This leads then to a review of property ownership. Property is then identified more narrowly as real and personal property and the relationships between them is explored. Finally, a framework of the formal and informal sectors is used to analyze property.

Property and Development

This section traces some of the main themes of recent debates on economic and political systems. In particular, it identifies new interests in democratization and market forces in a number of countries around the world. In some countries more interest is shown in democratization; in other countries market economics has more support; and in a number of countries emphasis is placed on developing both democracies and market economies. Several attempts have been made to determine relationships between democracy and market forces and these are reviewed. A main point of this section is to establish that there is a strong belief that democracy and economic growth require some similar conditions, among them being security of property rights. Thus whether a country is attempting to foster democracy, or a market economy, or both, property and its administration assume greater importance. This underscores the need for research and development of property-related issues in such countries.

Starting in southern Europe in 1974, a new wave of democratization spread out to touch countries in Latin America, eastern Asia, eastern Europe and southern Africa (Huntington 1991). The aftermath was an often radical restructuring of political, economic, and social institutions. As societies reorganized themselves, the nature of their property institutions, and the role that property should play in fostering economic, social, and political development, was reappraised.

The "First World" has long defined its relationship between property and fundamental rights using constructs of philosophers such as John Locke and Jean-Jacques Rousseau. Locke, who greatly influenced Anglo-American concepts, saw property as the

key to creating a government based on consent rather than the divine right of kings (Glendon 1991, 22). In his *Second Treatise of Government*, Locke argued that the principle reason for people submitting to government is the safeguarding of their property. (Locke interpreted property broadly to include life, liberty, and estate.) By presenting property as a right that existed before governments were created, Locke built his case to remove the monarchy's legitimacy and to strengthen the political power of the landed gentry and rising merchant classes. The Rousseauean tradition of Europe also recognized private property but placed less emphasis on it: Rousseau presented in *The Social Contract* the concept that people have a right to what they need for their subsistence, but their property rights are subordinate to the overriding claims of the community. In other words, the owner is a trustee or steward for the public good (Glendon, 34).

In the formative years of the United States, James Madison saw property rights and their protection as part of the larger problem of protecting minority rights (Nedelsky 1990, 32). Madison contended that there were "two cardinal objectives of government: the rights of persons, and the rights of property" (Meyers 1973, 58). Yet, as Nedelsky (17-19) argued, the protection of both persons and property introduced tensions for Madison for he saw the United States becoming a society divided between rich and poor: a minority property class and the property-less majority. The fundamental right to suffrage meant, for Madison, the potential for the majority to protect only the rights in which it had a direct interest (i.e., the rights of persons) and to violate the rights of others (i.e., the rights of property). Thus, "in practice, if political rights were given equally to all, the rights of persons and the rights of property would not be equally protected" (Nedelsky, 19). In this regard, Madison shared the company of Macaulay, Ricardo and Marx (Przeworski 1992, 53).

One of the ways that the United States responded to this tension was the passage of the Northwest Ordinance, the country's "land tenure" legislation, which promoted Thomas Jefferson's vision of an agrarian democracy. Jefferson believed that the key to public

virtue and political participation lay in a property-owner's economic independence (Sheldon 1991, 76). Redistribution of property was important to Jefferson. In the revision to the Common Law Code of Virginia, he abolished the laws of primogeniture (which preserved large estates by restricting inheritance to the eldest son) and entail (which prohibited the division and sale of estates) (Sheldon, 73). Indeed, the omission of property as an inalienable right enumerated in the Declaration of Independence may be attributed to Jefferson's attack on Virginia's semi-feudal aristocratic property laws, for if these laws were declared inalienable, they could not have been overturned (Yarbrough 1989, 66).

Given the rapid natural expansion of the American population and the great flow of immigrants, Jefferson saw that an ever-expanding frontier was needed to ensure continued independence and virtue (LaFeber 1993, 372). The Northwest Ordinance which he co-authored

> not only provided adaptively efficient economic development—by fee-simple ownership of land and a clear system of inheritance that in turn made transferability of land possible at low transaction costs—it also provided an efficient system of government, which allowed for the political transaction costs of integrating the territories into the national government to be low. (North 1990, 99).

Since property gave a person independence, many held that those without property, such as women and servants, were considered dependent and could be justifiably denied the vote because they presumably lacked wills of their own (Wood 1989, xii). Nonetheless, Dorner (1992, 10) suggested that the openness and flexibility of the American system allowed private property and enterprise to become consistent with the general public interest in a way that Marx thought it never could.

The "Second World" responded to property-induced tensions by withdrawing property rights from the propertied class and investing them instead in the State in line with Marx's views that private property was the capitalist instrument of exploitation. But as indicated by recent history, this was not a sustainable solution. The unraveling of the Second World governments spurred belief among some that democracy requires private property. As one response from Romania put it, "The dreadful experience of communist

countries showed that people cannot really be free if they lack private property. A citizen who is economically dependent on the state is not free to question the state's decisions" (Sandi 1992, 110). Advocates of this view contend that excessive concentration of property in the State threatens democracy and economic growth (Berger 1992, 10). However, at issue here is not necessarily the extent of state ownership. After all, some existing market democracies have considerably higher levels of state ownership than others. Rather, it is the attitude a state takes in principle to the legitimacy of private property and enterprise (Fukuyama 1992, 44).

Caught in the middle was the "Third World" where political and economic turmoil arose, at least in part, from the concentration of property in the hands of a minority. Prosterman and Riedinger (1987, 10) contended that inequitable holdings of agricultural land have been at the root of a high proportion of the most violent civil conflicts, and they placed it as one of the most fundamental political and economic problems of the present age. Yet attempts to redistribute property were often strongly resisted by the propertied class who invoked Locke's concept of property as a natural right. (In the case of countries with greater economic development, where agriculture plays a relatively minor role, Huntington (1968, 381) suggested that skewed land ownership patterns do not pose substantial problems of social equality and political stability. Madison may have agreed since he thought that poverty was caused by overpopulation and so felt it should be minimized by a thriving commercial republic and not by redistributing property (Nedelsky 1990, 34)).

Recent movements towards democratization and market economies appear to have diminished ideological differences across the divisions that separate "East" from "West" and "North" from "South". Indeed, one school of thought argues that these recent shifts directly challenge the limits of cultural arguments. For example, the view that Spain and Portugal (with their distinct tradition of authoritarian, patrimonial, Catholic, stratified, corporate, and semi-feudal traditions) could not be compared with the standards of the

liberal democracy of Western Europe or North America was no longer ethnocentric once the people of Spain and Portugal held themselves to those same standards (Fukuyama 1992, 50-51). And democratization of Spain in turn greatly influenced Latin America: Huntington (1991, 102-103) presented a South American observation that "to replicate the United States is something we could never reasonably be expected to do, but to resemble Spain is another matter".

These recent shifts to market-oriented democracies perhaps should be regarded cautiously. They are, after all, not necessarily continuous. Huntington (1991, 289) suggested that many of the original causes of the third wave have been significantly weakened. (These causes, in his view, included higher levels of economic well-being; changes in attitude and policy in the Catholic Church, United States, European Community, and Soviet Union; and the snowballing effect of countries democratizing.) Nor are these shifts necessarily uni-directional. Previous waves of democratization were followed by "reverse waves" with some, but not all, countries making the transition to democracy reverted to non-democratic rule, and this may occur again.

It may well be that at some future date the relationship between markets and democracies will not be perceived as strongly as today. Alternating views of optimism and pessimism have accompanied the passage of earlier forward and reverse waves. For example, the rise of authoritarian governments (e.g., military dictatorships) during the 1960s and 1970s appeared to strengthen the hand of those who argued that market economics was not compatible with democracy. Even as great a proponent of market-oriented democracy as Joseph Schumpeter (1942) pessimistically predicted the demise of capitalism and problems for democracy when writing during the first reverse wave. But as Huntington (1991, 315) suggested, any reversal in the future does not preclude the occurrence of another democratizing wave.

As the twentieth century draws to a close, empirical analysis shows there is a strong, although not global, belief that democracies and market economies are closely

interrelated (Olsen 1993). However, there is still a limited understanding of the underlying dynamics of the relationship. On the one hand, some suggest that a market economy fosters a democratic society by creating the space needed for a civil society where individuals, groups, and institutions exist independent of state control (Berger 1990, 12). In contrast, political dissent is costly when those who hold political authority also control the means of production (Bhagwati 1992, 40). Thus Barrington Moore (1992, 420) pointed to the adoption of commercial farming by the landed aristocracy as an important factor in England's democratic development since it not only removed much of the aristocracy's dependence from the crown, but it also advanced the independence of the emerging merchant class in the towns. Moreover, since a market economy is more efficient than a statist one, it creates greater wealth. Following the line established by Lipset (1959), Huntington (1991, 106) argued that such higher levels of well-being lead to wide-spread literacy, education, urbanization, a larger middle class, and the development of values and attitudes supportive of democracy. Consequently, an authoritarian industrializing state "will eventually find itself contending with democratic forces unleashed by an assertive middle class that the state itself has indirectly fostered" (Kim 1992, 29).

On the other hand, some argue that democracy spurs a market economy. From this perspective, England's Glorious Revolution of 1689 is seen as a critical factor leading towards the Industrial Revolution and the growth of the English economy (North and Weingast 1989; Olsen 1993). The political changes wrought by that revolution resulted in a democracy of a constitutional monarchy, an independent judiciary, and a Bill of Rights, all of which contributed to give people a "high degree of confidence that contracts they entered into would be impartially enforced and that private property rights, even for critics of the government, were relatively secure" (Olsen, 574). An analysis of a more recent event, the development of regional government in Italy in the 1970s, led Putnam (1992, 157) to conclude that it is civic traditions that affect economic development and institutional performance, rather than the other way around. Of course, a successful market economy

may flourish under a benevolent dictatorship but, as *The Economist* pointed out, not only are such dictators rare, those that exist cannot promise credibly that freedoms created by their policies will last (Democracy and growth 1994, 17).

Even though the dynamics between a market economy and a democracy are not yet clearly understood, there is a growing belief that a lasting democracy and economic growth require at least the same conditions, among them security of property and contract rights (Olsen 1993, 567). As countries foster market-oriented democracies, the issue of property assumes greater importance. Property, of course, has always had a social basis; that is, a society accepts some set of norms concerning property. These norms are not fixed but change over time; new property rights are created when the benefits of doing so exceed the associated costs—or as Demsetz (1967, 354) put it, when it becomes economic for those affected by externalities to internalize benefits and costs. Norms accepted by society have legitimacy because they are enforceable. Historically, property rights came through hegemony; legitimacy rested on force. The twin pressures of democratization and market economies are now underscoring the validity of recognizing property arrangements that have origins in a broader social base. Thus in a democracy or a market economy, the state's primary role is not to mandate ownership but to assist in managing the social record of ownership.

Property Interests: Rights, Duties, and Powers

Property may be viewed as the relationship among persons with respect to objects (Munzer 1990, 16). Property differs from possession in that it is a claim that may be enforced by society, state, custom, or law (Macpherson 1981, 4). Property is frequently referred to only in terms of rights, but it is much broader, encompassing disadvantageous incidents as well as advantageous ones. Hohfeld (1919, 35-41), for example, identified four interests, each of which have a correlative. (See Table 1.)

Table 1: Hohfeld's fundamental legal conceptions
(based on Munzer 1990, 19)

Element	Correlative
Right	Duty
Privilege	No-right
Power	Liability
Immunity	Disability

From Hohfeld's perspective, something is a "right" only if it involves a correlative duty on the part of someone. That is, if one person has a right to an object held by another, then the second person has a duty to give that object to the first. A "privilege" is a legal liberty or freedom, and has as its correlative the absence of a right on someone else's part to interfere. A "power" is something which enables people to alter their legal positions or that of someone else; its correlative is a liability or susceptibility to having one's legal position altered. An "immunity" is a lack of susceptibility to have one's legal position altered by someone else. Its correlative is the absence of power or disability. Thus if a person cannot be compelled to sell property rights, then that person has an immunity with respect to the person attempting to force the sale (Munzer 1990, 18).

This categorization, though useful, is not without its limitations. Separating rights from other interests can be problematical: does a government agency effect an action because it has a right, a power, or a duty to do so? As A.W.B. Simpson (1986, 25) noted, among the duties of feudal lords established after the Norman invasion of England was that of holding a court so that their tenants' disputes could be resolved. The administration of justice became a profitable business and this duty was soon perceived as a right. Moreover, restrictions on a person's rights (e.g., imposed by land use regulations, leases, or easements) and responsibilities associated with those rights (e.g., financial, legal,

environmental, or social) may be considered as rights held by others (e.g., the mortgagee, the community, the leasee, or the government) (Nichols 1993, 31-32).

All this implies the existence of a wide range of rights. The following list of rights is based on Honoré (1961, 112-128):

1. A right to possess the property (i.e., to have physical control over it). Restated, this is the claim that others should not interfere without permission. It includes the right (or power) to exclude access to unauthorized people.

2. A right (or liberty) to use the property at one's discretion. This form of "control right" includes decisions on how to use the property.

3. A right (or liberty) to derive income from the property (i.e., a "cash-flow right".

4. A right (or immunity) from illegal expropriation of the property.

5. A right (or power) to transmit the rights to the property to one's successors. This is the "fee" in English common law.

6. A right (or power) to alienate the entire property, to alienate portion of the property, or to partially alienate the property.

7. A residuary right to the property. That is, when partially alienated rights lapse (e.g., after the expiration of a lease), those rights revert to the holder who alienated them.

8. A right to enjoy the rights to the property for an indeterminate length of time. That is, rights do not terminate at a specific date but can last a lifetime.

9. A duty (or liability) not to use the property in a way that is harmful to other members of society. In other words, this right is held by those who do not hold the right to use the property.

10. A duty (or liability) to surrender the rights to the property when the interests are taken away to satisfy a lawful action, for example in a case of insolvency. In this case, the right is held by the creditors.

This variation of property rights has led to such rights being likened to a bundle of sticks. The "sticks" are portrayed as varying from time to time in number (representing the number of rights), in thickness (representing the size of each right), and in length (representing the duration of each right) (S.R. Simpson 1976, 7).

For the purposes of this research, a simplified version of Hohfeld's classification is used. Property interests are categorized as rights, duties, and powers. Rights and duties,

such as those listed above, may be held by individuals, civil and commercial associations, and even governing bodies. Powers are particular interests held by governing bodies, and among them is the power to reallocate rights and duties held by others.

Property Regimes: Open Access, Communal, Private, and State

Property is often categorized as open access; communal/common property; private property; and state property (Macpherson 1981, 4-6; Feder and Feeny 1991; 137). In an open access regime, no rights are assigned to anyone with the implication that controls and duties are also left unassigned. Its distinguishing characteristic is its lack of exclusivity. Thus Garret Hardin's notion of a free-for-all in the "Tragedy of the Commons" (Hardin 1968) applies rather to open-access property than to common property.

"Communal" or "common" property regimes refer, in general, to where an aggregate body has been assigned exclusive rights to an object such as a parcel of land. However, the terms have been used to describe at least three quite different situations (Bruce 1989, 24). One case is associated with collectives or cooperatives. Here, common ownership implies common exploitation and management. A second case is associated with a right of commons where each member of the association may have a right to use independently the full extent of certain holdings of the group. A third case refers to the control of the group over property interests that are apportioned for the relatively exclusive use of individuals or families.

Private property regimes are often associated with individualized assignment of property. However, private property can be assigned to more than one person (e.g., jointly or in common) as well as to corporate bodies such as commercial entities and non-profit organizations. Finally, in a state or public property regime, property rights are assigned to some authority in the public sector.

While such classifications are useful, they are not clear cut. First, a given property may share characteristics of more than one type of property regime. For example, a

shopping mall may "belong" to a private body but it is a very public place. Some public property (such as a military camp) may bear close resemblance to private property with access barred to unauthorized users while other public property (such as city streets) resembles a form of communal property. Second, different property regimes can occur in the same society. They may exist as neighbors, for example, state property next to private property. Alternatively, they may appear to be nested as in the case of horizontal subdivisions where the property may be considered private at the level of the parcel and communal within the parcel.

Overriding, Overlapping, Complementary, and Competing Interests

Rights, duties, and powers comprise a dense web of intersecting interests. For example, within the same object there may be overriding, overlapping, complementary, and competing interests. These are discussed in more detail below.

Overriding Interests

These may be regarded as interests that a community or sovereign power has in an object (such as a land parcel) to which rights have been assigned to some person (either individual or aggregate). In high income countries, overriding interests frequently arise through the exercise of sovereignty where the state has "eminent domain" over the land comprising its territory. Such interests include the powers of expropriation and restrictive regulation as well as the expectancy of recovering property on the failure to pay taxes (Honoré 1961, 145; S.R. Simpson 1976, 176). The United States, for example, recognized federal eminent domain in the Fifth Amendment to the Constitution. In addition to possessing powers of eminent domain, individual states in the U.S.A. possess "police powers" which provides the basis of regulatory land use authority. Zoning laws—representing the potentially vast governmental authority to restrict a person's use of his or her property—passed constitutional muster in 1926 (Glendon 1991, 25-27). Although a

recent series of cases of "regulatory takings" (i.e., where there is no physical occupation of the land) has sharply divided the U.S. Supreme Court, the cases addressed the application of legislation in particular contexts (i.e., whether an apparent police action constitutes a taking and thus requires compensation) rather than facial challenges to the legislation.

Overriding interests may be controlled in other ways in high income countries. For example, Netting documented how the Swiss villagers of Törbel still enforce village by-laws governing the use of land that developed over centuries (written legal documents date back to 1224). They further control alienation, not by preventing the free sale of private property, but by regulating access to communally-held resources. People selling their properties relinquish their claims to the common. Such rights to the common are not gained automatically by a noncitizen when acquiring private property but instead must be granted by the community. Since common rights are crucial for survival (by providing access to summer grazing on the alp and fuel from the woodlands), a barrier around the community is erected through the definition of "citizenship" (Netting 1981, 52-60).

Indeed, such overriding interests have long been part of the story of property in both feudal and non-feudal communities in Europe (Rösener 1992). In medieval England, villages independently developed sets of rules governing the use of land and a means of enforcing them. While arable land was held individually, it was subject to a rigid pattern agreed on by the community, acting collectively. Harvest-time, in particular, was subject to many by-laws, including the setting of the date when crops were to be harvested, when the harvest stubble was to be opened to grazing, and to which kinds of animals. These arrangements meant that privately-held arable lands were used communally after the harvest. Since fields were unfenced, this cooperation prevented problems caused by one person's cattle straying onto another's unharvested land (Gies and Gies 1990, 129-142).

Societies in low income countries also impose overriding interests. For example, in African societies, control over the power of land may vary in nature and content with the kind of land use activity in which an individual or group is involved. In any portion of

land, a number of people can each hold an allocation of power regarding certain functions and each one of these would attract varying degrees of control exercised at different levels of the socio-political organization (Okoth-Ogenda 1989, 11). As was the case in medieval Europe, rights to use privately-held agricultural land in Africa today can be overridden by the community after the harvest season when grazing rights are extended (Shipton 1992, 361). Rights to transfer land may be overridden to various degrees. Distinguishing features of property systems are the restrictions placed on an individual holder's ability to transfer land (e.g., only among family members, within the lineage or community, or to outsiders) and the approval (from other lineage or community members) required depending on whether the property is transferred via inheritance, gift, sale, etc. (Migot-Adholla et al. 1991, 159).

Overlapping Interests

Overlapping interests arise when different parties hold different (but not overriding) interests in the same object. They may occur as a result of a person transferring some but not all rights to another. In high income countries, for example, rights to a property may be held by more than one party through separation of rights of ownership, easements, and leases. English common law has been particularly inventive in devising ways to separate interests, for example, through the fiction of legal and equitable holdings and in attempts to prevent the alienation of property from the family. S.R. Simpson noted that the English landed aristocracy

> had an intense desire to rule posterity from the grave. They strove to keep their large estates tied up in their families forever, and their families, with equal vigour, strove to free themselves. This gave tremendous scope for legal ingenuity and counter-ingenuity, and the lawyers naturally prospered exceedingly, producing a maze of law. (S.R. Simpson 1976, 25)

One method of separating interests was the creation of different types of freehold: fee simple, which was an estate of inheritance which descended to general heirs; fee tail, which was an estate of inheritance restricted to a certain class of heirs; and life estate, which was

for the life of a particular person. This allowed the possibility of having three separate freeholders to same parcel at the same time.

Overlapping interests also exist in low income countries. Okoth-Ogenda (1976, 153) describes access to land in Africa as always being specific to a function. As a result a number of people may each hold rights expressing a range of functions. Overlapping interests may have limited duration on occasion. In multi-generational, polygamous households, membership can change considerably as a result of interpersonal conflict, migratory employment, and the developmental cycles of birth, marriage, and death. This has the potential to create substantial fluidity in the household structure and economic organization—and hence the allocation of rights (Haugerud 1989, 71). As well, certain "transfers" are temporary or redeemable. That is, certain rights revert to the original holder either by reassertion of the grantor or the refund of the price paid (Okoth-Ogenda 1989, 12; Haugerud, 75).

Complementary Interests

Complementary interests arise when different parties share the same interest in the same object. In high income countries, such interests may include rights to party walls and lateral supports that are shared by holders of adjacent buildings. Another example is the rights to common areas shared by owners of condominiums. In societies in low income countries, complementary interests may exist as equal rights of access to common grazing pastures and water bodies.

Competing Interests

Competing interests arise when different parties contest the same interests in the same object. Competition may arise between people who claim their rights from a common source, for example, as heirs. To derive rights by inheritance, a claimant must show that he or she is the heir at law under perhaps complicated rules which govern the descent of

land (A.W.B. Simpson 1986, 38, 56-63). Obviously, the more complicated the rules, the more open to interpretation they are.

Competition may also arise between people who derive rights from different sources. For example, under a "multi-titular" system such as English common law, a person could acquire title without the consent of the holder in a process that did not divest the title of the holder (Honoré 1961, 138-139). Obviously, the law had to devise means of determining which parties had the better title. Despite the establishment of procedures, determining the better claim may not be simple for as A.W.B. Simpson (1986, 40) noted in multi-titular systems, "titles are better or worse as they are more ancient or more recent, and the gradation is a gentle one."

Competing interests also occur in societies in low income countries. Some researchers such as Letsoala (1987, 19) have emphasized an egalitarian aspect of property holdings in Africa: land, which was not a scarce resource, was distributed among the families according to their needs and capabilities. Others, however, have identified more competitive elements that operate at different levels of society. At the level of the local descent group, conflicts may arise between family members having competing customary claims to a portion of land (Haugerud 1989, 83). Competing claims are also made by groups (Fourie 1993, 116).

Ownership

The preceding section illustrated that property systems in different parts of the world exhibit certain commonalities, that is, they tend to have interests that can be categorized as overriding, overlapping, complementary, or competing. But it is certainly the case that differences exist among property systems and these differences come to the fore when the issue of ownership is raised. Indeed, several researchers have argued that the western legal concept of "ownership" does not apply to indigenous tenure. Bennett (1985) argued that "ownership" is *dominium*: an absolute right to land with lesser rights

contingent on grants from the *dominus*; as such the concept of ownership is invalid since indigenous rights are organized competitively rather than hierarchically. In similar fashion, Shipton and Goheen (1992, 313) contended that the term is inappropriate because it neglects overlapping rights of different persons and ignores temporary rights that arise from seasonal oscillations between private and collective access. In other words, a term that is seemingly so simple to anglophones as to be second nature is often untranslatable (Shipton 1992, 313).

These arguments may be criticized on two points. First, they ignore the fact there is no single western legal concept of ownership; instead, Roman law and English common law treat property differently. On the one hand, Roman law offered the concept of *dominium* where one party may be regarded as the owner of property in land. However, such rights of ownership are never absolute since a property may be burdened by real and personal servitudes as well being subject to *imperium*, i.e., the powers of the government (Honoré 1961, 144-145). On the other hand, the English common law scheme for land ownership draws on the doctrine of estates, a conceptual device allowing more than one party to own an estate in property in land. Second, these arguments ignore the fact that legislation in "western" societies does not often address itself with the question of "ownership". English common law, for example, largely ignored "ownership" in favor of "seisin" (Cribbet 1975, 16; A.W.B. Simpson 1986, 36-40). Even today, disputes tend to be resolved without any mention of ownership or the owner, using instead terms such as "freeholder", "leaseholder", etc. (Reeve 1986, 13).

Nonetheless, the term "ownership" serves as a useful symbol. When all rights in a given property are held or "owned" by one party, then it may be easily interpreted that the owner of the entire bundle of rights is the owner of the property. But what happens when different rights in that bundle are owned by different parties? At least three concepts of what constitutes "ownership" exist.

One approach is to regard a person to be the owner of a property when that person holds more rights in the object than anyone else, in other words the person has more sticks in the bundle of rights (Lloyd 1962, 66). A second approach is to consider a person as the owner when that person owns specified sticks of the bundle, for example, the right to use the property at one's discretion, the right to derive income from the property, the right to exclude others, the right to alienate the property, and the right to be protected from expropriation without compensation (Honoré 1961, 113). In the third approach, ownership of the parcel is not considered to be an accumulation of sticks but rather the container for the bundle. The container may, at any particular time, hold all the sticks, some of them, or none at all. For example, a grant of a very long term lease (beyond the lifetime of the owner) at a nominal rental and free of conditions leaves the "owner" with no presently exercisable rights. However, when the lease ends, the container (i.e., ownership) will be there to catch the rights which were attached to the lease. The transfer of ownership is the transfer of the container itself (Simpson 1976, 7).

For the purposes of this research, ownership is regarded, in general, to include certain rights and duties with respect to an object. More specifically, ownership is regarded to include the right to alienate the property. Even within this definition there are variations, for example, the "limited transfer," "preferential transfer," and "complete transfer" categories identified by Migot-Adholla et al. (1991, 161). In this categorization scheme, people with "limited transfer" rights are prohibited from permanently alienating property holdings but are allowed to undertake some temporary transfers. The "preferential transfer" category describes property holdings that can be permanently transferred but only within the family or lineage, i.e., through gift or bequest. The "complete transfer" category includes property holdings that may be alienated outside the lineage through the right to sell. This research focuses on countries with emerging market economies and so centers around the "complete transfer" category. In other words, ownership is linked to the concept of marketable title, where title is the evidence of a person's right to property.

Real and Personal Property

Previous sections interpreted "property" somewhat broadly. For philosophers such as Locke, property included "life, liberty and estate" while Hobbes regarded conjugal affection to be one of the forms of property most dear to man (Reeve 1986, 54). For the purposes of this research, property is regarded more narrowly to encompass real and personal property.

A primary distinction between real and personal property is that real property concerns immovable objects while personal property addresses objects that can be moved (Cribbet 1975, 10; A.W.B. Simpson 1986, 46). Real property interests thus relate to land which is regarded here to include surface derivatives (such as ground water), subsurface derivatives (such as minerals), and supersurface derivatives (for example, air parcels). Personal property may be defined by exclusion; it is everything that is not real property. Personal property interests may concern tangible objects, for example an automobile, or intangible ones such as copyrights or patents (Henszey and Friedman 1979, 4-5).

The special characteristics of land introduce specific differences between real and personal property. First, land connects individuals to the polity since land provides the territorial dimension of the political jurisdiction. Arrangements governing property in land, which in aggregate constitutes territory, have always been important. Second, land is an important economic resource since production must take place somewhere. Third, the supply of land is largely fixed, which meant issues of inheritance and justice between generations were raised about land at an early stage (Reeve 1986, 82-84).

Laws over time have distinguished between real and personal property in a number of ways. Under English common law, for example, real and personal property is based on early formulations of real and personal actions. A real action could be brought in a court by an owner who had been wrongfully deprived of the land; the remedy was the restoration of the land itself. In a personal action, the dispossessed owner could claim only payment for the value of the object instead of compelling its return (Cribbet 1975, 10; S.R. Simpson

1976, 25; A.W.B. Simpson 1986, 45). Moreover, the way in which an object was classified affected what would happen to it when the owner died. Thus, in the seventeenth century the judges of England gathered together to decide whether dung (an important economic asset) was real or personal property (Reeve 1986, 81).

Nonetheless, the distinction between real and personal properties is not always clear. Changes in the object may cause it to move back and forth between the realms of real and personal property. For example, in the seventeenth century English case mentioned above, it was held that dung in the form of a heap was personal property but spread on the ground was real property (Reeve 1986, 81). In a more modern illustration, wood may be real property while in the form of a tree growing on the land, personal property when the tree as been cut and processed into lumber, and real property again when in the form of a house (Sirota 1983, xv).

Property may also move between real and personal realms to accommodate changing needs in society. Under English land law leasehold interests were originally personal property rights since only a personal action could be brought against them (i.e., the dispossessed leaseholder could not recover the land itself). Furthermore, the leaseholder had no estate of inheritance since estates could not be carved out of chattel interests, that is, a leasehold could not descend to an heir. Over time, these restrictions were removed (S.R. Simpson 1976, 25; A.W.B. Simpson 1986, 248-250).

The importance of credit in market economies has resulted in growing similarities between real and personal property. In historical times, loans could be secured in two ways. On the one hand, real property could be offered as collateral in the form of a mortgage. Because real property is immovable (and highly visible), it could be given as security without handing over possession. This was and still is a highly valuable security device since the mortgagor (borrower) can continue to use the property provided he or she is not in default in payment or performance of any obligation owing to the mortgagee (lender). On the other hand, personal property could be offered as security in the form of a

pledge. In this case, the pledgee (lender) would take actual possession of the personal property offered as collateral by the pledgor (borrower) until the loan had been repaid (Lakin and Berger 1970, 6).

This distinction was rendered inadequate by the requirements of a modern market economy. As economies in countries such as the U.S.A. developed and expanded, commercial businesses required much greater working capital, for example, new equipment was needed to be competitive, and equipment changed rapidly as new technologies were developed. Increased working capital was also required to extend credit to other businesses in the chain linking production, distribution, and consumption. Real property mortgages were insufficient to meet the growing demand for credit because many businesses leased their land or did not have enough to use as collateral, and pledges were inappropriate since the business needed to use the collateral (e.g., machinery and equipment, inventory, and accounts receivable) in order to prosper. To meet the needs of a market economy, security devices were devised to enable the borrower to remain in possession of personal property offered as security, much in the same way that the borrower can continue to use mortgaged real property (Lakin and Berger 1970, 4-6).

Development projects in low income countries have focused on real property, for example, by providing access to irrigation, and inputs such as fertilizer and seeds. The role of property rights have invariably been played by rights in land. More recent development initiatives, particularly in Latin America, are starting to include micro-entrepreneurs. As these businesses grow (assisted or not by donors), they build substantial levels of personal property. A recent survey by the *Instituto Libertad y Democracia* of micro-entrepreneurs in Lima revealed a furniture maker with equipment valued at US$5,000, and a bicycle-parts maker with US$19,000 worth of machinery. But as yet, it is difficult to identify opportunities for entrepreneurs to use such personal property to secure credit in low income countries.

A new relationship between real and personal property is emerging as a result of recent innovations in the credit market. Traditionally, credit has been supplied only through the primary mortgage market. Here, a bank or other lender provides a loan secured by a mortgage on property in land. Such a loan is relatively illiquid because of its long duration, and the fact that the loan rests on the credit-worthiness of a single mortgagor and is subject to local economic swings or natural disasters. Furthermore, investment in such a loan generally includes responsibilities for managing the loan. This reduced the appeal of the mortgage to the large or institutional investor (Lore 1987, 1-65, 66). This situation is changing, particularly in the U.S.A., but also in Europe and elsewhere, with the development of secondary mortgage markets and the emergence of mortgage-backed securities.

A secondary market is one in which existing, rather than new, products are sold, and as such, creates liquidity and flexibility, and increases the flow of money to the primary market (Lore 1987, 1-5). Local originators of loans secured by mortgages are able to sell the debt instruments to others in the secondary mortgage market, thus freeing up the capital for additional investments in property in land (Sirota 1983, 101). However, it was only with the development of mortgage-backed securities that mortgage-related debt was transformed into capital market investment instruments (Lore, 1-1). Mortgage-backed securities are created by packaging a pool of mortgage loans as collateral for an issue of securities that can be traded with greater ease than mortgage loans (Wiedener 1995, 72). As a result, mortgage-backed securities can respond to market conditions despite the traditional illiquidity of its underlying collateral (Lore, 1-52). In effect, mortgage-backed securities open the financial markets as a source of money to fund additional mortgage loans (Wiedener, 7). Transforming real property mortgages into personal property securities comparable with stocks, bonds, and cash instruments can thus greatly increase the amount of money injected into the housing and commercial property markets.

Formal and Informal Property

Property interests, particularly in a country with an emerging market economy, may be categorized according to the recognition afforded by the state to those interests. This gives, for example, formal and informal rights. See Figure 1.

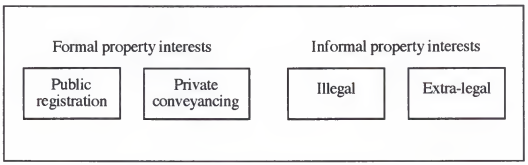


Figure 1: Formal and informal property rights

Formal Property

Formal property interests may be regarded as those interests that are explicitly acknowledged by the state and which may be protected using legal means. Property in high income countries is invariably regarded to be formal. Such formal property interests may be administered in several ways, e.g., public registration and private conveyancing. (See Dale and McLaughlin 1988, 21-22; S.R. Simpson 1976, 13-14).

In a system of public registration, an official state registry provides formal recognition of several important types of property rights. For example, a land registry records or registers interests associated with ownership as well as mortgages, easements, and long-term leases. A land registry does not typically record all interests (for example, zoning restrictions) which impact on the rights of ownership. Depending on the nature of the registration system, ownership is constituted by registration (a so-called positive system) or else ownership is merely evidenced in the land registry (a negative system).

To a limited extent, public registries record ownership of personal property, e.g., those dealing with automobiles, airplanes, and boats and ships. Unlike land, personal property is often of a transitional nature or is held by a person for a short period of time before being sold or otherwise alienated. Much personal property thus only enters an official register when it is used as collateral to secure a loan. To some extent, such a personal property registry can be viewed as a "debtor's registry" while a land registry can be represented as an "owner's registry" and a "debtor's registry".

Private conveyancing may occur in a jurisdiction where registration is not compulsory. That is, rights to land may be legally transferred without the transaction being registered in a land registry provided that the necessary contractual requirements are met. For example, in Peru a public registry system (*Registro de la Propiedad Inmueble*) was established only in 1888. Prior to that notaries provided a private conveyancing service whereby they maintained records of contracts of sale and, to some extent, this tradition still appears to continues.

A public registration system, in general, may provide greater confidence for several reasons. First, it establishes a more definitive set of priorities (for example, registered rights over unregistered ones). Second, it reduces asymmetry of information between parties in a transaction by providing publicity regarding interests in property. For example, since a mortgagor continues to hold possession of property in land that has been used to secure a loan, other lenders dealing with the mortgagor would not know that a prior mortgage exists without some public record (Lakin and Berger 1970, 6). Third, it may improve the reliability of information through quality assurance and quality control procedures. For example, in Peru titles issued by state agencies were often defective because of errors in identifying the owner or the land; at times agencies granted more than one title to the same land. Such titles, unscreened by an examination process, inspired little confidence in lenders (see, for example, Turner 1981, 222).

Since this research focuses on land and credit markets, formal property interests are considered rather narrowly to be those interests registered in a public registry (with the exception of overriding interests which do not have to be registered to retain priority).

Informal Sector

Informal property can be regarded as being held by people in the informal sector, a term coined by Hart in a paper presented at a 1971 conference on Urban Employment in Africa and published a few years later (Hart 1973). The International Labour Office (ILO), influenced by that conference, promoted the concept of the informal sector as a source of employment in its own right, and not a mere holding ground for unskilled rural migrants before their incorporation into the formal urban sector (ILO 1972). In the first of many publications on the subject, the ILO (1972, 6) defined "informal sector activities as being largely ignored, rarely supported, often regulated and sometimes actively discouraged by Government." Almost a decade later, the ILO could report that the term "informal sector" had gained wide currency although the concept itself had remained somewhat obscure since it had acquired various meanings according to researchers and their objectives (Sethuraman 1981, 13). One of these meanings related to housing and property arrangements, first in urban spontaneous settlements and later in rural indigenous settlements (Turner 1963, 1967, 1968a, 1968b, 1976; de Soto 1989, 1993).

Not surprisingly, the concept of the informal-formal sectors has been criticized as a simplistic classification of diverse and unrelated activities (e.g., agriculture, manufacturing, commerce, services) exhibiting various degrees of "formality" and "informality" (e.g., self-employed, wage-earners) carried out by a wide range of people (e.g., urban poor, rural poor, slum dwellers, migrants). See, for example, Bromley (1978) and Peattie (1987). Indeed, the great diversity of interpretations applied to different contexts led Harriss (1978, 1077) to proclaim that "it is for the initiates to spot the informal sector, and they know it when they see it." And when they see it, there is often disagreement. For some, the urban

informal sector in Lima is the entrepreneurial response of people who are burdened with an inadequate and inappropriate legal system (de Soto 1989). For other, it is the product of an economy that has virtually collapsed (Poole and Rénique (1992, 19).

Early research in the 1970s focused on the working poor with some recognition that informality constituted a clandestine activity. In the 1980s, the relationship between illegality and informality became the predominant theme (Tokman 1992, 3). Two main schools of thought developed regarding this relationship.

In the first approach, informality and illegality become similar concepts as a result of decentralization and reorganization of production and work processes at the global level. Increased international competition heightens the need to reduce costs while decentralization of production provides a way of increasing profit margins by diminishing trade union power. This search for flexibility and the need to reduce labor costs gives rise to the informal sector which is forced to operate outside the regulatory framework. This enables it to bypass laws and regulations which are expensive in terms of financial costs and rigidities. A variation of this approach contends is that economic restructuring leads to production decentralization. The competitive pressure of excess labor in the quest for survival pushes down incomes and generates subsistence activities that are not dynamically linked to expanding modern sectors but rather cater to low-income markets lacking access to capital, skills and technology (Tokman 1992, 3-4).

In the second approach, informality and illegality become similar concepts simply because of the difficulties of complying with the existing regulatory framework. Informal activities are performed beyond the law in low income countries as a result of inappropriate legislation, excessive red tape, and inefficient bureaucracies. Laws, procedures, and government are thus seen to be responsible for the existence of a large and increasing share of employment in low productivity and badly remunerated jobs (Tokman 1992, 4).

It is this second approach that is adopted for this research. That is, informality is addressed in terms of the appropriateness or otherwise of rules relating to property.

Informal Settlements

"Customary" property held in rural indigenous communities may be considered as a type of informal property, and such property has been the subject of much research on land tenure and land reform. In contrast, informal urban property is an area surprisingly under-researched given the rapid development of urban settlements in low income countries. In 1990, as much as 75 percent of South America's population was urbanized; this figure is expected to grow to 88 percent by the year 2025 (United Nations 1995, 85). During the same period of time, the urbanized populations of Africa and Asia are predicted to increase from less than one-third of the total population to about 55 percent. Moreover, it has been projected that by the year 2000, some 22 of the world's 28 mega-cities (i.e., cities with a population over 8 million) will be in low income countries (United Nations, 78-85).

The rapid development of informal urban settlements as a ubiquitous feature of low income countries has given rise to a rich collection of local terms: *ranchos* in Caracas, *campamentos* in Chile, *favelas* in Rio de Janeiro, *pueblos jóvenes* in Lima, *villas misarias* in Buenos Aires, *colonias proletarias* in Mexico City, *barong-barongs* in Manila, *kwettis* in Rangoon, *gecekondu* in Istanbul, *bidonvilles* in former French colonies, and shanty towns or squatter settlements in former English colonies (Dwyer 1975, 3). However, such informality is not unique to today's low income countries. Wood (1989, x) noted that in the post-revolutionary U.S.A., people ignored restrictions imposed by the government to settle the land in an orderly fashion, and instead squatted where they wanted or preempted land and refused to pay for it.

Almost half of the increase in urban population in low income countries is attributed to migration from rural areas (Sethuraman 1981, 3). "Push" and "pull" factors may be at play. The rural push hypothesis emphasizes population growth, low productivity of agriculture, declining standards of living, and lack of alternative opportunities for employment (Collier 1976, 14). The urban pull hypothesis suggests that forces in metropolitan areas draw external population. Attractions include better employment

opportunities, higher wages, better health and education facilities, and other standards of living (Cymet 1992, 18; de Soto 1989, 7-9).

Informal urban settlements may form in a number of ways. Some settlements have no well-defined starting point. A few families living on land they are cultivating or quarrying may be joined over the years by other families. Another example of this type occurs when construction workers build temporary houses on vacant land near construction sites where they are working. Rather than leave when construction is completed, they stay on and are joined by their families (Collier 1976, 41).

Other settlements, particularly noticeable in Latin America, appear literally overnight as implied by their Mexican name of *colonias paracaidistas* ("parachute neighborhoods") (Cymet 1992, 46). These settlements are planned well in advance by leaders of the invasion. The site to be invaded is selected according to criteria such as topography, access, and the ease of securing the land. Additional families are recruited for the settlement to achieve the critical mass needed to reduce the possibility of eviction. Plans showing streets and parcels for residences, open spaces and public buildings are drawn (often by civil engineering students), and members of the group are assigned their parcels, at times by lottery. Frequently, the date picked for the invasion is a civil or religious holiday. This provides more time for the settlers to consolidate their position since they are not working and since response from officials is likely to be slower than at other times. On the night of the invasion, families bring building material (e.g., poles and straw matting) for their houses. Street and parcel boundaries are marked on the ground and families begin constructing their shelters. Often, a family's first step after constructing the straw house is to build a brick wall along the parcel boundaries in order to avoid disputes. Once boundary walls are built, families begin constructing more substantial houses. These houses are built and extended in stages in accordance with each family's financial and labor resources and its priorities (Mangin 1963; Turner 1963, 1967; Andrews and Phillips 1970; Collier 1976, de Soto 1986; Cymet 1992). As early as 1963, Mangin noted that people in informal

settlements had been "buying and selling for years with home-made titles" (Mangin 1963, 370).

The settlements are administered by local leaders. As Mangin (1963, 369) noted, settlements in Lima democratically elected their committees at a time when formal local governments were still being appointed. This executive leadership is answerable to the general assembly of the community (de Soto 1989, 26). The informal local government is responsible for internal administrative matters such as allocating and regulating parcels (including recording holders of property right in rudimentary registers), and initiating community improvement projects such as the construction of schools and community centers, and the building and leveling of streets. In addition, it represents the settlement in any dealings with formal authorities such as the police or government agencies. An important aspect in this regard is getting legal recognition for the settlement (Mangin 1963, 369; Collier 1976, 22; Lloyd 1980, 101; Leeds 1981, 24-25; de Soto 1989, 19-26).

A distinct difference between informal and formal urban settlements is that they occur in reverse order of each other. In a formal settlement, title to the land is legally acquired, the house is built, services are provided, and then the residents move in. In informal settlements, residents occupy the land first, build their houses, slowly acquire services and then finally receive title to the land (Turner 1967, 179; Lloyd 1980, 6; de Soto 1989, 17; Cymet 1992, 158). There is, however, a complex relationship between building a house and acquiring interests in land. On the one hand, a family will be more inclined to invest in home improvements as its property rights in the parcel occupied become more secure (Collier 1976, 25). On the other hand, the more solid the house (i.e., the harder to destroy), the better the protection against being forced from the land (Andrews and Phillips (1970, 216).

Informal Property

Informal property interests may be viewed as those interests that lack official recognition and protection. Informal property is widespread throughout low income countries: it is estimated that more than 90% of rural property and 50% of urban property in Peru is informal (de Soto 1993). Informal property may be categorized as illegal or extra-legal.

Illegal property interests are held in direct violation of the law. One example is occupation of a site in contravention of an eviction notice. At a milder level, property interests may be illegal simply because of inappropriate laws. Three cases are presented below. In the first case, informal subdivisions may contravene laws stipulating a minimum size for a farm to be considered by government as an economic unit. Informal subdivisions among heirs may result in smallholdings falling below the threshold size. Furthermore, the law may not acknowledge fragmented landholdings. In Peru, the minimum size of a farm was set at 3 hectares; ownership of anything less could not be registered. This precluded a farmer who held, for example, two farms each of two hectares.

The second case also concerns rural land, this time in the form of informally subdivided collectives. This occurred in several Latin American countries, as well in China and eastern Europe before the final collapse of statism (Melmed-Sanjak and Carter 1990, 190). Peru provides a particularly good example of informal parceling. During the Peruvian agrarian reform, initiated in 1969, nearly every private coastal holding larger than 50 hectares was reallocated as the collective property of its permanent workers. Several variations of cooperatives were created. Beginning in 1981, these collectives began to be informally subdivided by the labor force into individual holdings in violation of the law. The "decollectivization" occurred quickly and relatively quietly without an explicit program; by 1986, about 75% of the coastal collectives had been subdivided (Carter and Alvarez 1989, 156).

A third case of illegal informal transactions occurs when agricultural land is used for urban purposes (de Soto 1989, 30; Cymet 1992). Mexico provides a good example of how rapid urbanization results in rational transactions to evade the law. The *ejido* institution dates back to before pre-Columbian times when land was held in a communal fashion by villagers. During the 19th century, the privatization of land resulted in villagers losing access to land. After the revolution, the concept of communal land was re-established in the form of *ejidos* (Cymet, 101-102). Restrictions were placed on *ejido* land to protect peasant communities from losing their land. Until recent constitutional changes, *ejido* ownership could only be changed legally by presidential decree and for a recognized higher purpose (Cymet, 12). It was possible for *ejidos*, which are the only source of land for the expansion of major cities, to be legally converted for urban purposes. However, when that happened, the *ejido* owners received minimal compensation payments since the *ejido* was valued as agricultural land and not as higher priced residential land. Furthermore, compensation payments were uncertain because of protracted procedures lasting years, a situation made worse during times of high inflation. *Ejido* owners thus had strong reasons to sell illegally in the informal market. The price they received, though, was much lower than if they could sell the land legally (Cymet, 92).

Illegal property, illustrated by the three cases described above, constitutes one form of informal property. Another form can be regarded as extra-legal property, that is, property interests are held with the tacit consent of the state even though formal recognition may be withheld. Initially, states often viewed informal settlements as undesirable. In Peru, for example, official opposition to invasions included beatings, destruction of the settlers' possessions, and at times, the killing of some of the settlers (Mangin 1968). However, on occasion settlements were tolerated by the state and even encouraged at times. In such cases, the driving force was usually clientalism or paternalism. For example, the Peruvian President General Odría (1948-1956) promoted squatter settlements but failed to grant titles to the residents. As Collier notes:

> If the squatters are simply located on public land, their security of tenure appears to depend on the willingness of the state, and particularly the President, to let them stay. If they receive title, their security of tenure has a formal legal basis that is independent of the good will of the president. The failure to give titles thus reinforced the idea that the squatters were dependent of having a special connection with the president. (Collier 1976, 61)

In similar fashion, Cymet (1992, 44-45) notes that the lack of property titles, infrastructure, and urban services in informal settlements of Mexico City gave the government a powerful long-term lever over the residents. That is, commitments for satisfying their needs for urban services could be postponed for decades and traded slowly for political loyalty.

Even when people might have won political recognition of their property, they may find it impossible to win legal recognition. In the case of Peru's rural collectives, the return to civilian government resulted in a law in 1981 that established in principle that a type of collective could legally parcel its land among members. However, it was not until 1984 that procedures for doing so were defined. When procedures were established, their complex, burdensome, and time-consuming requirements invariably prevented informal property holders from obtaining legal recognition. In other words, their rights remained extra-legal. For example, starting in 1961, the Peruvian government passed a series of laws attempting to remodel and legalize existing informal urban settlements and to prohibit the formation of new settlements. Initially, city services had to be installed and the settlement remodeled if it lacked an orderly street grid before legalization procedures could begin. Residents were required to pay the cost of services and remodeling over a number of years and would receive title once payments are complete. In 1968, pressure from the municipalities resulted in laws that eliminated the need for costly remodeling (Collier 1976, 85-91).

While this legislation was progressive compared with most Latin American countries, and indeed those on other continents as well, it was limited in its effectiveness. de Soto (1989, 50-51) presented evidence that between 1961 to 1980, valid titles had been

given to about 25% of the parcels; between 1979 and 1980, only 1,000 titles were granted. Numbers peaked during 1981-1983 when regulations were relaxed and declined after that. At times, an applicant could wait twenty years before receiving title from the government (de Soto, 43). Furthermore, titles issued were often unregistered because of difficulties and did not have the legitimacy demanded for use as collateral or other forms of participation in the formal sector (Turner 1981, 222).

Formalization

For the purposes of this research, formalization is viewed as the transformation of informal property into formal property, and in particular, formal property having public notice, e.g., property interests recorded or registered in a public registry. When property in land is formalized, ownership of a parcel (along with other interests) is registered in a public registry. Subsequent transactions (e.g., a sale or transmission to an heir) are made formal by their registration in the registry. Formalization of property in land has two requirements: both the parcel of land and the owner must be formalized or formally recognized. Property may thus be informal because the parcel has not been adequately defined for the purposes of registration. And even if a parcel is formally recognized, property rights may be informal because the current owner has not been defined as such in the registry.

Formalization may be viewed to have two major objectives. First, formalization should redraw the boundaries of the formal sector to recognize what is happening in everyday life. In the United States, for example, as Wood noted

> In the years following the Revolution, the federal government made repeated offers to control the spread of settlement westward. In order to fill up America's vast space in an orderly manner, the government priced the land high, limited the credit available, and kept the plots that could be bought large in size. But people-on-the-move simply ignored these restrictions. They swarmed around the speculative holdings of land companies, squatted where they wanted to, or preempted land and refused to pay for it. Consequently, over the next half century or so the national government was repeatedly forced to lower prices, expand credit, and decrease the size of plots that could be purchased. *It did so in a desperate attempt to catch up*

> *with what the people were already doing*. Finally, in 1862, the government threw its hands up and simply gave the western land away free to anyone who would settle on it. (Wood 1989, x, italics added)

In a similar fashion, Peru's initiatives, which ended rural collectives and the removal of squatter settlements on barren state land surrounding Lima, were efforts to bring the law into line with what the people were already doing.

Second, formalization should redraw the boundaries of the formal sector to recognize what people want but do not have. For example, people in informal urban settlements around Lima have long used informal titles ("home-made titles") when buying and selling land (Mangin 1963, 370). While such informal titles may have allowed for some efficiency-enhancing transfers, they were not what many people in informal urban settlements wanted. Some two and half decades ago, legal property titles and access to medical services were rated highest in a survey of the importance of 26 services to residents of Lima's informal settlements (Andrews and Phillips 1970, 218). Demand for legal recognition of informal ownership of property does not appear to have abated since then.

A number of hypotheses have been put forward in favor of formalizing property. Many of them are interrelated, sharing the belief that property interests must be made easy to identify and verify, that there must be legal certainty that a person's rights will be protected against unlawful acts of others, and that the results of legal actions must be easy to forecast (Johnson 1972, 260-261). They include, for example:

Assurance. The more clearly a person's property rights can be defined, the more easily that person will be able to defend those rights against the claims of others (Johnson 1972, 261).

Social stability. Reliable public records prevent some disputes from arising, and help to resolve others more quickly since property ownership and boundaries can be readily ascertained (S.R. Simpson 1976, 230).

Credit. Reliable public records reduce asymmetry in information by allowing creditors to determine more easily if a potential borrower has the right to transfer property

offered as collateral. This reduction in asymmetry of information enables creditors to offer credit at lower interest rates (Feder et al. 1988, 3; Feder and Feeny 1991, 145).

Improvements to the land. Increased assurance of property rights increases the certainty that a person will be able to benefit when making investments such as buildings, equipment, infrastructure, and land conservation measures. Improved access to credit provides financial resources for improving the land (Feder et al. 1988, 5).

Productivity. The factors described above combine to ensure that land goes to its best and highest use. As a result, for example, commercial agriculture is adopted by innovative and energetic farmers who are able to acquire more land; bad farmers end up holding less land (Swynnerton 1955, 10).

Liquidity. When property rights are formal, assets can be exchanged rapidly on a massive scale and at low cost. In low income countries, most property rights are held informally and so cannot enter the formal marketplace as negotiable assets (de Soto 1993).

Labor mobility. Opening up land markets facilitates geographical mobility of the work force: people are able to move from their land to benefit from social and economic opportunities offered elsewhere (OECD 1986, 15). The ability to defend rights legally rather than physically allows people to leave their land to take advantage of short-term opportunities.

Property values. Improvements to the land and improved production are reflected in higher values. Increased labor mobility and liquidity allow values to be defined by the market rather than arbitrarily. Clearly defined property rights reduce the costs of discovering who holds rights to a parcel of land and what the scope of those rights are. Lowering the cost of reducing information asymmetry increases the incentive for potential buyers or leasees to make a higher offer for the property (Johnson 1972, 261; Feder et al. 1988, 5).

Property taxation. Increased value of the land and clearly identified owners makes the collection of property taxes feasible (Dorner 1991, 79).

Public services. Increased revenues from taxes, together with better information about the land, enable governments and utilities to provide more effective services and utilities (Cymet 1992, 83). Infrastructure such as street lighting, paved roads, and water and sewerage in turn raise property values.

Resource management. Increased information about the land and property rights allows public agencies and private corporations to plan the management of resources more effectively, and enables governments to enforce environmental and other regulations (McLaughlin and Nichols 1989, Holstein 1990).

While these benefits of formal property are clearly evidenced in high income countries, they have been largely unobtained in low income ones. A number of counter-arguments have been put forward regarding this state of affairs. First, indigenous property systems provide greater security of tenure than previously believed (Migot-Adholla et al. 1991, 157; Binswanger and Deininger 1994, 3). As such, formalization may actually reduce overall security by concentrating overlapping interests in a parcel in the hands of one individual. Moreover, claims of subordinate right-holders to conditional, partial, or common access tend to be neglected (Atwood 1990, 661; Shipton and Goheen 1992, 316). And when the new formal system does not eclipse the original informal one, tension exists between *de jure* and *de facto* rights to land. As a result, formalization can increase the number of disputes (Haugerud 1983, 76; 1989, 65). And it has been argued that titling for credit is

> precisely the reverse of security of tenure: new temptations to sell one's holdings in times of urgent cash needs. This contrary line of argument...must be repeated until the old assumption [that private land titles heightens a smallholder's security] is no longer made. (Shipton 1988, 155)

Second, the secure and inheritable rights to agricultural land usually allocated in indigenous property systems do not constrain incentives to invest in improvements (Binswanger and Deininger 1994, 4).

Third, credit is not closely tied to formalization. At times, sources of credit just do not exist. The use of formal credit is limited by the poor development of formal banking institutions in low income countries (Migot-Adholla et al. 1991, 165). When credit is available, political influence counts more than land titles as to who receives it (Shipton 1992, 369-370). Credit obtained when farmland is used as collateral is often diverted to non-agricultural purposes (Haugerud 1989, 71). As well, Shipton (1992, 381) put forward a counter-argument that credit is debt and that rural people have many other debts and obligations already. On the other hand, creditors are reluctant to accept land as collateral; enforcing a contract on foreclosure is difficult when relatives and neighbors of loan defaulters threaten prospective buyers (Migot-Adholla et al. 1991 169; Shipton 1992, 375).

Fourth, land may already be used for its highest and best purpose. Since communal property systems are not open access, community regulations may prevent over-exploitation. Significant expansion of commercial agricultural farming can precede attempts to formalize property and thus is not dependent on it (Haugerud 1989, 61). As well, farm consolidation has not been by better farmers, but by richer ones accumulating land for speculation or for future subsistence security of sons (Haugerud, 71). Binswanger et al. (1993, 3-5) provides evidence that consolidating farms to a size greater than that which can be operated families does not introduce efficiencies. Moreover, efficiency-enhancing transfers are possible since communal systems often allow transactions among community members (Binswanger and Deininger 1994, 4). Stressing the importance of equity, Shipton (1988, 99; 1992, 366) argues that the intentional creation of a landless class is "shocking".

Furthermore, the costs and technical, legal, and managerial skills of establishing and maintaining a formal system of land administration can be considerable. Thus given the existing constraints on human and financial resources available to low income

countries, decisions to allocate skilled people to formalization denies those skills to other important sectors or activities (Atwood 1990, 666).

On the other hand, there is evidence from Thailand (Feder et al. 1988; Feder and Feeny 1989) and Peru that points to the advantages of formalization. In a detailed economic analysis of the Thailand project, Feder and others found that formalization had a substantial effect on the agricultural performance of farmers. Their evidence showed that "providing full legal ownership to farmers who lack such status (i.e., squatters) brings a very high economic return in most of the areas studied: the benefits far outweigh the relatively small costs of certifying legal ownership" (Feder et al., 148). The analysis, however, showed that most of the impact came from the fact that titles increased farmers' access to formal credit, rather than the elimination of risks of security to land rights of farmers. One reason for this is that the risk to squatters' rights to land in Thailand is not significant because eviction by the state would be politically costly (Feder and Feeny 1991, 145).

The inconclusive nature of the evidence can be attributed to a number of factors such as the relative wealth of the country and the extent of population pressures (Holstein 1990). More fundamentally, it matters whether people want formal recognition (Andrews and Phillips 1970) or are against it (Shipton 1992). At times, evidence is presented to support an ideological point the researcher is making and is not collected and analyzed systematically. And some projects are just better designed and implemented than others.

Property in Low Income Countries

This chapter identified that property is an integral part of a country's economic, social, legal, and political systems and changes in property relationships can have far-reaching societal effects. In high income countries, formal property facilitates access to credit, improves liquidity of assets by improving market conditions, and increases labor mobility by reducing information asymmetry between people and by providing legal

certainty that a person's rights will be protected against the unlawful acts of others. Moreover, up-to-date information about property in land underpins the provision of public goods such as property assessment and taxation, utility infrastructure and services, and resource management. Further advances are obtained when real estate mortgages are transformed into personal property securities since the increased liquidity results in the injection of significant amounts of money into housing and commercial markets.

In low income countries, most property is held informally. Formal land and credit markets are thin with participation being restricted to a small percentage of the population. If land and credit markets are to be opened to the majority of the population, their property holdings must be formalized. There have been many attempts to formalize properties in low income countries around the world. Most efforts have concentrated on property rights in rural lands, for example in agricultural development programs. This is not surprising given that property rights in land represent the greater portion of a typical family's assets. But it is surprising that so few land-related programs have addressed urban dwellers who represent the great majority of Latin Americans and an increasing percentage of Africans and Asians. And it is perhaps this rural bias that has resulted in a neglect of the role of personal property. After all, farm land is the unit of production; a smallholder may be able to use the farm to obtain credit but may possess little in the way of personal property that can be used to secure a loan. In contrast, an urban micro-entrepreneur, such as a metal worker or furniture maker, may acquire over time equipment with significant value.

Property represents complex economic, legal and political relationships that societies use when organizing themselves. How are property interests themselves organized and administered? In the following chapter, attention focuses on some of the major issues relating to the administration of formal and informal property.

CHAPTER 3
PROPERTY INSTITUTIONS AND ADMINISTRATIVE ARRANGEMENTS

Institutions and Organizations

Property is an institution and, like other institutions, its major role in society is to reduce uncertainty by establishing a stable (but not unchanging nor necessarily efficient) structure to human interaction (North 1990, 3). Institutions are constraints that humans impose on themselves, or as North described more simply, they are the rules in the game of society. In contrast, organizations are the players in the game, or groups of individuals bound by some common purpose to achieve an objective. Institutions are a major determinant of opportunities in a society, and organizations are created to take advantage of these opportunities. But as organizations evolve, they alter the institutions. The resultant path of institutional change is shaped by the symbiotic relationship between institutions and organizations that evolves as a consequence of the incentive structure provided by the institutions. The path of institutional change is further affected by the feedback process that people use to perceive and react to changes in opportunities (North, 4-7).

Of course, an organization usually has an internal structure that governs the interactions of people who constitute the organization. The presence of such an "internal institution" in an organization may result in a collective entity such as a firm or government bureaucracy being conceptualized as both an institution and an organization (Knight 1992, 3). Indeed, for some an institution is only an organization (such as project management units, parastatals, line agencies, etc.) or administrative functions (Israel 1987, 11). But such a blurring deprives us of a useful construct. Property, tenure and many other things a society devises are not organizations. Thus for this research, North's definition of institutions and organizations is adopted.

Property is affected directly and indirectly by policies, laws, and organizational arrangements which impact on the creation and recognition of property rights, and imposition of duties related to those rights. These are described below.

Policy

Policies define how resources and benefits are to be allocated. Property issues may be affected by narrowly set policies such as the provision of irrigation facilities in rural lands and the delivery of utility services in urban settlements. They also may be affected by broader ranging policies relating to sustainable social and economic development (including labor mobility and asset liquidity) and environmental protection. Thus policies affecting property in land, for example, may be directed towards a variety of social, economic, environmental, and political objectives:

Social. Policies may aim for a more equitable distribution of resources. These resources include the land itself; a wide range of public goods (such as utility services, clinics, schools, etc.); and information about the land and its resources.

Economic. Policies may be devised to foster economic growth by using resources more effectively. For example, assets in property may be exchanged or used to leverage additional funds for private and public development. Moreover, land policies may aim at generating revenue through sales, leases, licenses, taxation, and duties.

Environmental. Policies may be created to protect scarce and fragile resources. For example, limitations may be placed on the subdivision of farms to ensure sustainable farming practices.

Political. Policies may be established to connect the government more closely to its citizens. The flow of information that is created through land administration can allow the government to be more responsive to societal concerns.

Policies such as those listed above may be set within the formal sector of society. But policies exist also in the informal sector: for example, informal rural communities may

devise policies to address how land is used during a period of sustained drought, while informal urban communities may establish policies defining what public goods (such as schools, recreation areas, etc.) should be provided and how they will be paid for.

Law

Property may be held under formal or informal law. Formal law addresses those property interests which are explicitly acknowledged by the state and which may be protected using legal means. Informal law concerns informal property interests, i.e., those interests which lack official legal recognition and protection. Formal and informal law may connect to property institutions in several ways as illustrated in Table 2.

Table 2: Formal and informal law connections

Law connections	Imposed by society at large	Imposed by individuals
Formal:	• Statutory law • Case law • Administrative law	• Testamentary conditions • Marriage contracts • Sale contracts
Informal:	• Customary (rural) law • Informal urban settlement rules	• Transfers • Inheritances

The formal legal system may be regarded as connecting with the administration of property (such as land administration) at two levels. On the one hand, different branches of government may establish statutory, case, and administrative law and practices which impact on a registration system and conditions of title. On the other hand, individuals may impose their own conditions through wills, marriage contracts, and sales agreements, etc.

Frequently, much of the population in a low income country is not touched by the formal legal system. Much property is thus held informally. These informal rights do not

exist merely because someone claims them. Instead, people within an urban or rural informal community agree among themselves as to where and how each can exercise these rights. The social basis of informal ownership is clearly defined in customary law or the rules that are defined by urban informal communities. Informal law, particularly in urban communities, may still allow individuals considerable discretion regarding property transfers involving sales and inheritance.

Organizations

Responsibility and authority for the formal and informal administration of property may be distributed among a wide range of private and public actors as illustrated below in Table 3.

Table 3: Formal and informal organizations

Organizations	"Public"	"For-profit"	"Not-for-profit"
Formal:	• Central govt. • Regional govt. • Local govt.	• Property professionals • Developers • Financial/insurance institutions • Utility companies	• NGOs • Cooperatives • Trusts
Informal:	• Urban informal settlement representatives • Rural traditional leaders	• Money lenders	• Community-based charity organizations • Savings organizations

In the case of property in land, many formal administration functions are carried out by public sector agencies located at central, regional, and/or local levels of government.

Many functions may be also undertaken by organizations in the private "for-profit" sector. For example, property professionals (including lawyers and land surveyors), developers and property managers, financial and insurance institutions, and utility companies. Increasingly, the "not-for-profit" sector (comprising a variety of non-governmental organizations (NGOs), cooperatives, and trusts) is playing a larger role in what has traditionally been viewed as public administration (Salamon, 1989). An NGO may be a "first-party" organization, i.e., a community-based organization which serves the needs of its members, or a "third-party" organization, i.e., one that exists to serve the needs of third parties or people who are not themselves members of the organization (Korten 1990, 95-108).

Informal land administration functions may be allocated to a variety of informal officials, for example, traditional leaders in rural areas and representatives elected by informal communities in urban areas. Chapter 2 described how settlements in Lima democratically elected their committees at a time when formal local governments were still being appointed. Such informal local governments may be responsible for internal administrative matters such as allocating and regulating parcels (including recording holders of property rights in rudimentary registers) and representing the settlement in any dealings with formal authorities such as the police or government agencies.

A "for-profit" sector also exists in the informal sector, for example, in the form of money lenders who may operate in a full-time or part-time capacity (Bouman 1994, 116). As well, informal communities may establish "civil society" organizations, such as ROSCAs (Rotating Savings and Credit Associations) and ASCRAs (Accumulated Savings and Credit Associations) (Abugre 1994, 167). Using Korten's distinction, a number of informal "first-party" NGOs may serve various needs of a community, perhaps working at times with formal "third-party" NGOs.

Administrative Functions and Processes

The institutions of property are made relevant and operational through their administration. This subsection focuses on the administration of property in land but some of the discussion is applicable to personal property. As Figure 2 illustrates, land administration helps to transform land tenure and land policy into land management, i.e., governance of society's spatial environment.

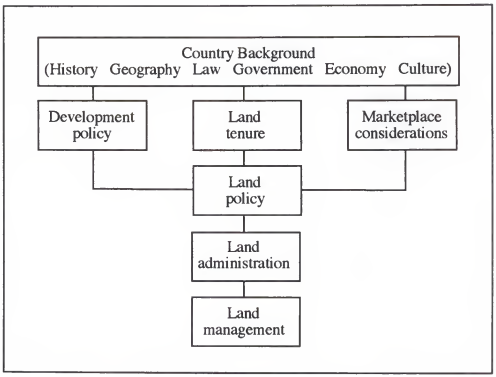


Figure 2: Context for land administration
(based on Dale and McLaughlin 1988)

Whether formal or informal, land administration comprises an extensive range of systems and processes, some of which are closely linked with land tenure, and others which fall nearer to land management. It includes functions involved with regulating the development and use of the land; gathering revenues from the land through sale, leasing,

taxation, etc.; and resolving conflicts concerning the ownership and use of the land (Dale and McLaughlin 1988). Table 4 illustrates one way of representing these functions.

Table 4: Land administration functions and processes

Juridical	• *Allocation of rights to land* (e.g., sovereign grants, sales, donations, inheritances, prescription, expropriation, reversion, servitudes, leases, mortgages) • *Delimitation of the parcel* (e.g., definition of the parcel, demarcation of boundaries on the ground, delineation of the parcel on a plan) • *Adjudication* (e.g., resolving doubt and dispute regarding rights and boundaries) • *Registration* (e.g., official recording of information of rights and parcels)
Regulatory	• *Land use controls* (e.g., zoning, environmental regulations, etc. that restrict rights)
Fiscal	• *Property assessment* (e.g., valuation of the parcel land and improvements) • *Property taxation* (e.g., computation and collection of taxes)
Information management	• e.g., collection, storage, retrieval, dissemination and use of land information
Enforcement	• e.g., defense of person's rights against invaders, enforcement of land use controls

Juridical Component

The juridical component places greatest emphasis on the holding of rights to land. It comprises a number of processes to allocate rights in land; to delimit the parcel for which the rights are allocated; to adjudicate doubts and disputes regarding rights and parcel limits;

and, in formal systems, to record information about the rights and parcels in registers. These processes are described in greater detail below.

The process of allocation involves assigning rights to land to a person (individual or corporate), with the rules of allocation being defined by the land tenure system. These rules may change slowly over time or they may alter dramatically in response to shifts in land policy. For example, a new land policy may focus on creating more equitable land holding patterns through re-distribution. Changing land policies can also affect the rights of transfer in many ways. This can be done explicitly by eliminating restrictions which prevent certain classes of people from acquiring the land or it can be done implicitly (e.g., by placing ceilings on the amount of land that can be held by a person, thus preventing a holder from transferring rights if the only willing buyer is excluded by law from taking possession). Rights, people, and parcels of land are identified in the allocation process. Proof of ownership of rights is indicated by the title. Rights to land can be allocated and reallocated in the ways described below, and in each case a new title is usually issued.

Original grant. In cases where a government, either nation state or indigenous, lays claim to territory through its sovereignty, it claims the power to grant rights to particular parcels to persons. Its special significance arises in part because it is here that the first formal chain of title begins as ownership is transferred from the state to a person. It is also important because the parcel associated with those rights is defined for the first time.

Subsequent grants. The person holding the right of ownership (the grantor) may wish to transfer ownership to a second party (the grantee) by various means including sales, gifts, and inheritance. The title held by the grantee is a derivative title. The transfer may involve the entire parcel of land held by the owner or a subdivision of it. Alternatively, all rights may be transferred, or only some rights (e.g., as in the case of a lease). Society may place various restrictions on a person's right to transfer the holding.

Prescription and adverse possession. These provide the means for a person to acquire rights to property held by another. The resulting title is not a derivative one (i.e.,

derived from that of the previous owner) but an original one. Roman law variations allow a person to acquire property through prescription by peaceful, public, and uninterrupted possession of the land for a stipulated number of years. Here, prescription is not mere occupation: the person must possess the land as if he or she were the owner. Under English common law, prescription is confined to the acquisition of such rights as easements and profits, and adverse possession is the process used to acquire title as a result of the real owner having failed to pursue the legal remedies available to him or her within the time limitations (S.R. Simpson 1976, 152-153.) Prescription or adverse possession do not apply to state land since that is transferred as an original grant.

Expropriation or taking. The state may take the rights to land (usually with compensation) from the owner so that the land can be used for public use and, perhaps, for public purpose. In the early years of the U.S.A., the Fifth Amendment eminent domain clause (which holds that private property shall not be taken for public use without just compensation) was applied literally. The property had to be taken either for actual use by a segment of the public (e.g., a school or highway) or to eliminate a public evil (e.g., flood danger). The government had no power to force a transfer of wealth from one private individual to another. Over time, "public use" took on a broader sense of "public purpose". Land reform, a public taking for a private use, was accepted in a U.S. Supreme Court case (*Hawaii Housing Authority v. Midkiff*, 467 U.S. 229, 1984) on the grounds that the exercise of eminent domain was rationally related to a conceivable public purpose such as countering oligopolistic tendencies (Glendon 1991, 28-29).

Reversion. Land administration processes may enable the state to recover property from a holder for reasons such as the failure to pay property taxes or to use rural land for agricultural purposes within a stipulated time. Such property may be allocated to new parties by the state.

The process of delimitation includes identifying the limits of the parcel of land for which the rights are allocated. Once the parcel has been defined, its boundaries are

demarcated and delineated. Demarcation is the physical marking of the boundaries on the ground. Delineation is the representation of the boundary positions described graphically; numerically using coordinates, or in writing using metes and bounds. Parcels can be represented individually on separate plans (i.e., sporadic) or together on comprehensive property mapping (i.e., systematic). Boundaries have traditionally been categorized as fixed (specific) or general. Under the fixed boundary scheme, boundary corners are usually marked with a physical object (i.e., the beacon or monument) while the line (or bound) between the objects is not marked. In the general boundary scheme, the bounds are usually associated with physical features such as a hedge with the precise location of the boundary in the hedge being left undetermined. (See Dale and McLaughlin 1988, 29-30.) As Nichols (1993, 62) noted, this distinction can be misleading for fixed boundaries are no more fixed than general boundaries, they are merely delimited more precisely.

The process of adjudication involves resolving disputes or doubts regarding the allocation (and reallocation) of rights to land and the delimitation of land parcels. Through it, "all existing rights in a particular parcel of land are finally and authoritatively ascertained" (S.R. Simpson 1976, 194). As Simpson (195) further noted, there is a cardinal principle that adjudication does not alter existing rights or create new ones; rather, it merely establishes what rights exist, by whom they are exercised, and to what limitation. Adjudication in high income countries is typically restricted to events after registration such as declaratory judgments involving "quieting titles" and the location of boundaries. In low income countries, adjudication is a necessary step towards providing formal recognition of existing ownership. Such adjudication can be implemented sporadically or systematically. The former implies the parcels are brought onto the land register in a piecemeal, haphazard fashion while the latter points to a methodical sequence in which all parcels are registered area by area (Simpson 1976,194-196; Dale and McLaughlin 1988, 31).

The process of registration concerns the making and keeping records of property rights. Nichols (1993, 4) defines it as the official, systematic process of managing information about land tenure.

Regulatory Component

The regulatory component is mostly concerned with controlling use of the land and its resources. It comprises a set of interests which do not typically appear in a registration system. Included are land use restrictions imposed through mechanisms such as zoning, the designation of special areas (ranging from historic districts to fragile ecosystems), and so forth.

Fiscal Component

The fiscal component focuses on economic aspects of the land. Its processes may be used to implement taxation policies (e.g., to increase revenue collection). They may also provide incentives, for example, to increase productivity, or to consolidate or redistribute land for particular purposes (Dorner 1991, 78).

The value of the parcel depends on the rights and restrictions imposed by the juridical and fiscal components as well as other selected attributes. Valuation for property taxation purposes can be based on the land, on improvements to the land, or on some combination of both. It can be calculated in several ways: the market comparison method compares sales prices of recent transactions of similar properties; the replacement cost method determines the current cost of replacing improvements and incorporates a depreciation factor; and the income method computes the present value of the net income that should in future come from the land (Dale and McLaughlin 1988, 50-51).

Land Information Management Component

Information management is an integral part of the three components of land administration described above. The juridical cadastre is the information system that underpins land titling and registration while the fiscal cadastre provides information to support the valuation and taxation of land parcels. Various other information systems (e.g., zoning) are used to manage information about the regulatory component. The multipurpose cadastre concept has been proposed as a mechanism to combine information regarding land ownership, land economy, planning, and management. Such a cadastre is defined as a large-scale, community-oriented land information system to serve both public and private organizations and individual citizens. The multipurpose cadastre is presented as supporting land transfer (by holding land ownership records); land taxation (by holding property valuation records); and general land administration (by providing land information in an integrated form to make possible complex forms of analysis and a broader understanding of land issues (National Research Council 1980, 1983; Dale and McLaughlin 1988).

Management of land information is shifting its focus from reporting on past events to monitoring present activities, and more recently, to predicting future activities. This has fostered a perception that land information is more than just good record-keeping. Rather, it is being seen as a resource in its own right, or as a commodity with its value being defined in terms of market demand. Growing importance is being attached to the development of information infrastructure which enables users to access land information rapidly, and to add to its value. As a result, land information is being seen as something more than just an internal support of the juridical, regulatory, and fiscal components.

Enforcement Component

In similar fashion to the information management component, the enforcement component is an element of juridical and fiscal cadastres and regulatory systems.

Enforcement may range from a narrow focus of ensuring that disputants comply with a resolution to a broader one where the rights of property holders in general are protected. What makes a property right valuable when compared with mere possession is that the claim of a property right may be enforced either through a formal system (e.g., courts, tribunals, etc.) or an informal system (e.g., through community pressures). That is, there is certainty that a person's recognized rights will be protected against the acts of others, and that the results of protective actions are easy to forecast (see Johnson 1972, 260-261).

Property rights invariably have some form of duty associated with them. Mechanisms exist to enable society's authorized agents to enforce such duties (e.g., payment of taxes), and other restrictions (e.g., preventing heavy industrial activities in a residential neighborhood or damage to environmentally sensitive resources).

Minimum Requirements of Registration Systems

The primary function of a property registration system is to record in some manner the holding of property rights. A property registration system is thus an information system providing information on three elements: the object of the interest, the nature of the interest in the object, and the holder of the interest in the object. Depending on the nature of the property, registration systems may function in different ways: for example, a personal property register is in essence a "debtor's register", while a land registry is one of "owners and debtors".

Information on the three elements may vary in several ways. (See Figure 3.) First, designers of a registration system face a wide range of choices regarding what may be registered. In the case of interests, registries invariably register only a subset. A registry, for example, may register transfers and mortgages but not certain easements or other restrictions. Some unregistered interests are considered overriding interests, i.e., they retain their validity even though they remain unregistered (S.R. Simpson 1976, 18). Other types of registered rights prevail over unregistered ones. Moreover, choices have to be

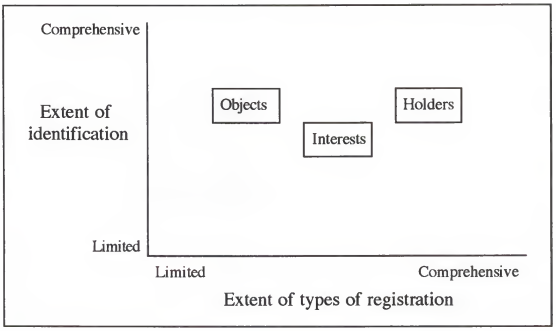


Figure 3: Variations in registered information

made as to which interests are considered voluntary (e.g., those arising from consensual financing instruments) and which are involuntary (e.g., arising from tax liens, mechanics' liens, and judgment liens). Similarly, in the case of objects, a registry may register vertical subdivisions (i.e., conventional parcels) but not horizontal subdivisions (e.g., condominiums). Finally, a jurisdiction may elect to refer to one person (invariably the male) as the owner when a couple is married in community of property or some similar arrangement. Incidents such as this have frequently resulted in registration projects in low income countries being viewed in poor light.

Second, designers of a registration system face a variety of choices regarding the level of precision identifying the three elements. For example, in the case of holders, a registry may use descriptors in addition to names. Such descriptors may include date and place of birth, or some identity number for people, and company registration numbers for organizations. Similarly, the object may be identified with varying degrees of precision. For example, a land parcel may be defined by a unique identity number, a verbal

description, a graphical description, a numerical (coordinate description), or any combination of these descriptions (Dale and McLaughlin 1988, 37-39). Finally, interests may be identified with various degrees of precision. For example, the registry may register the full contents of a document relating to a secured loan or it may merely register notice that the secured party who has filed may have a security interest in the collateral described, and that further inquiry from the parties will be necessary to disclose the complete state of affairs (Lakin and Berger 1970, 140).

Third, designers of a registration system face a variety of choices regarding the publicity of registered information. At one extreme, information may be made available only from a single source in a single format, and at specified times. Other options may allow for information to be accessed in real time through a variety of decentralized mechanisms employing different media. Furthermore, information may be made freely available or some form of user fee may be charged.

Real Property Institutional Arrangements: Land Registration Systems

Land registration systems may be formal or informal (for example, the rudimentary registration systems used to record informal property rights in Lima's informal settlements). This section concentrates on formal registration systems.

Classifications of Registration Systems

Frequently, discussions of formal registration systems center around distinctions between registration of deeds and registration of titles. Registration of deeds involves the recording of deeds in a register; a deed being the written record of a transfer of property rights from one person to another. Registration of deeds provides some security to owners since a registered deed generally takes priority over an unregistered one, and documents are public. But deeds registry systems are usually regarded to have some defects. A deed, in itself, does not prove title: it shows that a transaction took place but does not prove that the

parties are legally entitled to carry out the transaction. Deeds registries are often characterized as not critically examining the deed to determine if the transaction is valid (S.R. Simpson 1976, 15). Several deeds, all representing differing claims to the land, may be recorded in the deeds registry. As a result, the history, or chain of title, of a claim must be searched as far back to the root as is possible (or required) and compared against other registered deeds for the same property.

Registration of titles (sometimes called the Torrens system) is viewed by some as a means of overcoming the defects of registration of deeds. Three principles commonly associated with title registration are the mirror principle (the register faithfully reflects all facts which are material to title); the curtain principle (the register is the sole source); and the insurance principle (an injured party will be compensated if the register has a flaw and fails to reflect the title correctly). The title register is intended to be the final authority regarding the validity of a title, thus eliminating the need for subsequent investigation of chains of titles. Achieving such finality required several innovations. Titles could only appear on the register after their validity had been examined by registrars. Organizing title registries around parcels, rather than people (i.e., grantee-grantor system of deeds registries), helped to clearly identify who held the rights to a particular parcel (S.R. Simpson 1976, 15-23).

Distinctions in the terminology of registration of deeds and titles, however, have limited utility. In part, the original differences between the two systems can be attributed to quality of information. Improvements made to information management practices (such as better examinations by registrars and the creation of parcel-based registers) in deeds registries may render them virtually indistinguishable from title registries. (See Dale and McLaughlin 1988, 23-24).

Furthermore, the distinction between registration of deeds and titles may have relevance only in countries using English common law. English common law enabled title to land to be acquired without the consent of the previous owner by a process that did not

have a divesting effect, i.e., the system was a multi-titular one and a number of people might have title to the same property. In contrast, Roman law systems were uni-titular systems since a person could only acquire a title to property through a process that divests the former holder—there is only one root of title (Honoré 1961, 138-139). Adoption of a title registration system in an English common law jurisdiction effects a move away from a multi-titular system to a uni-titular one. The title register does not merely record transactions as does the deeds register; instead it operates as the only mechanism for the transfer of rights in question. In other words, by entering the new holder's name on the register, the previous owner is dispossessed (A.W.B. Simpson 1986, 281).

A more useful distinction between public registration systems is that of "positive" and "negative" systems. In a negative system, the evidence of rights is merely evidenced in the land registry. In a positive system, title is constituted by registration, i.e., registration dispossesses the previous owner and vests the rights in the new owner. Positive systems may be backed by a government guarantee that the registered information is true. Here, the classical view of the deeds registry presented above constitutes a negative system while the title registry represents a positive system. But like the distinctions between title registry and deeds registry, the differences between positive and negative systems may blur in practice.

For example, in Roman Dutch registration systems such as those found in southern Africa, the land registration system is negative but yet acts much as if it is positive. A land registry serves to mirror objective legal facts which exist independently and outside of the registration system. However, the system is, in principle, very accurate since transfer takes place when the deed is registered. (The last registered deed is thus equivalent to a certificate of title and it is unnecessary for the land owner to keep previous deeds.) Furthermore, deeds are examined by registrars prior to registration to certify their validity. Inaccuracies in the system are therefore limited to exceptional circumstances such as a change in the marital status of a person who holds registered rights (which will be updated

when the next registrable transaction occurs) and to cases such as prescription (Latsky 1995).

Instead of using simple dichotomies such as "deeds registry" versus "title registry" and "negative" versus "positive", a multi-dimensional approach may be preferable. In this analysis, a five-dimensional approach is selected, i.e., jurisdiction-wide coverage, quality control, currency, guarantee, and indemnity.

Jurisdiction-wide coverage. It is usually hypothesized that the more parcels registered in a formal registry, the better. From an administrative perspective, a "seamless" property fabric covering an entire jurisdiction enables better resource management decisions to be made. From an economic perspective, thin markets do not generate as much growth as those in which there are many participants. From a social justice perspective, benefits of formal property should be provided to the majority in the country and not merely a minority. A traditional approach to achieving jurisdiction-wide coverage is has been the recommendation of compulsory registration, i.e., no transaction is valid unless it is duly registered. However, compulsory registration cannot work successfully without some means of enforcement and this is often lacking in low income countries. Enacting a rule that registration is compulsory will merely make transactions informal if people feel that it costs too much to comply with the law. Many jurisdictions provide legal incentives to register by giving priority to a registered interest over an unregistered one. However, third party requirements may count as much, or perhaps even more than, government sanctions and incentives. For example, commercial credit companies satisfied with the operations of a registry system may in turn provide an incentive for potential borrowers to formalize their property.

Quality control: Since interests are an institutional construct, they must be represented by information; the more reliable the information is, the more useful it becomes. In part, quality of information may be controlled through examinations of incoming documents. Using terminology developed by McLaughlin (1975), an "active"

registry examines the substance of incoming documents and allows only those that pass muster to be registered, while a "passive" registry merely files or records any incoming document without evaluating its contents. In part, control of quality may be enforced by certification of documents by property professionals (in the public and private sector) before the documentation even reaches the registry office. Improved quality does not come only from examinations; it also requires effective techniques for storing and retrieving information. For example, a registry system employing unique permanent numbers to identify parcels will have less ambiguity than a system using a continually changing grantor-grantee index as its primary key. Good information management techniques are clearly made better when appropriate computer technology is used. However, as numerous case studies testify, applying computers to inefficient operations does little to improve the total process; the end result is often that the mess has been automated at great expense.

Currency. A third dimension represents the extent to which information in the registry system is kept up to date. For example, information may be examined at a registry office and found acceptable when property is transferred, but that information is accurate only until the next transfer. Consequently, a system in which information entering is examined so precisely that it is exceedingly expensive and difficult to register transactions may not reflect ownership respected by the community. Increasingly, its registers may show the dead to be registered owners of land if high transaction costs discourage heirs and other subsequent owners from seeking formal recognition of transfers. As with the dimension of jurisdiction-wide coverage, merely making the registration of subsequent transactions compulsory will not necessarily provide the sought after result. Instead, the benefits of continuing registration of transactions must exceed the associated costs.

Guarantee. A fourth dimension represents the extent to which the jurisdiction stands behind its public registry. "Torrens-based" jurisdictions famously guarantee their registers in two senses. On the one hand, there is an affirmative warranty: the title of the registered owner is as stated on the register. This vesting provision goes beyond merely

declaring an existing title good. It positively confers the title since without registration the owner might have had no title at all. On the other hand, there is a negative warranty since the statutes warrant that the title is not affected by anything not shown on the register. That is, "it is not only unnecessary but also impossible to establish a right in the land by any other means... ." (S.R. Simpson 1976, 176).

In general, Roman law-based jurisdictions do not maintain "positive" registers in the sense that Torrens-based jurisdictions do. Nonetheless, some form of guarantee is provided since ownership registered in the registry may be overruled only by court order (although minor errors may be corrected by a registrar). Typically, to overrule registered ownership interests, a court must find evidence of bad faith, and the challenger has the burden of showing that the registered owner did not enter the transaction in good faith. The guarantee is much stronger in Roman-Dutch countries such as South Africa which have a negative warranty of title (similarly to those of Torrens systems) in that there is no other way in which ownership of land can be acquired other than through the medium of the registry (S.R. Simpson 1976, 107). Many jurisdictions, notably a subset of English common law countries, do not guarantee entries in the registry since transactions are merely recorded and not examined.

Indemnity. A final dimension addresses what happens if something should go wrong with the registration system. In other words, it represents a "comfort factor" for users of a registry system. At one extreme, jurisdictions (such as Sweden) may have a comprehensive indemnification program whereby a person suffering loss of an interest because of an error in the registry receives compensation regardless of the source of the error (Andersson 1995). In a limited program of compensation, jurisdictions (such as South Africa and Namibia) may indemnify a person who suffers loss as a result of registry officials to act bona fide or to exercise reasonable care or diligence in carrying out their duties (S.R. Simpson 1976, 107). A number of jurisdictions offer no compensation and expect an injured party to recover damages from those who caused the loss in the case of

fraud or from legal professionals in the case of their negligence. A private indemnification program has emerged in the U.S.A. in the form of title insurance. Here, a person suffering loss as a result of registration will be indemnified by his or her title insurance company. However, what is insured is merely the accuracy of the title search by the title insurance company and not the perfection of the title (Bernhardt 1993, 354).

Trends in Registration Systems

Land registration systems, even in high income countries, are often viewed as archaic Dickensian back-water operations held captive to their professional clients. (As Stigler (1971) noted, regulations are frequently set in place, not to protect the public, but to protect existing privileged positions.) Furthermore, they tend to have little policy significance, and provide little opportunity for serious revenue collections. McLaughlin has suggested that land registration systems are beginning to change as jurisdictions look towards reengineering registration functions, integrating those functions with other property-related functions, and running the registries in a more businesslike fashion (Palmer and McLaughlin forthcoming).

Reengineering the registration function. "Reengineering" is the redesign of an organization's processes, essentially reinventing the way in which the organization operates in order to meet new demands (Hammer and Champy 1993). The reengineering of land registries has focused on four closely related sets of legal, judicial, administrative, and technical reforms. Legal reforms include simplifying and codifying common law, introducing standardized forms, reducing the number of overriding interests, making registration compulsory, converting indexes based upon names into parcel-based indexes, and modifying statutes of limitation and rules of evidence. Judicial reforms include streamlining the judicial process (for example, by seeking to give more responsibility to administrative officers and tribunals), standardizing judicial procedures, and introducing concepts and procedures for accountability. Administrative reforms include simplifying

procedures for receiving and examining documents; introducing risk management principles in the examination process; minimizing duplication; and using professional and support staff more effectively. Technical reforms address issues such as introducing computer technology for document scanning to provide on-line computer access to property records

Integration. Some jurisdictions have long been interested in integrating registration with other property-related functions. Stimulated by the prospects of automation, the case for integration has been made in terms of cost savings through economies of scale and minimizing of duplication; and more effective service to the public through "one-stop shopping". There have also been expectations of synergies among the various property agencies arising through sharing physical facilities; staff (e.g., front desk staff who receive documents and fees); data (with individual agencies given primary or "custodial" responsibility for selected data); common functions (such as the use of common forms) and procedures for similar functions; and a common database environment (e.g., by using standardized inquiry and communications software to provide access to a family of databases). In general, however, progress towards integration has been slow, largely because the various registries have long institutional histories, their own constituencies and professional and technical perspectives, and they often have made significant investments in automation to address their specific requirements. Given this, a more limited alternative has been to provide jurisdiction-wide on-line access to networks which provide query capability to the various databases and some transaction capability.

Business models. In recent years, attention has also been given to streamlining the costs of running the registry, enhancing their revenue capabilities, and requiring them to operate in a more businesslike fashion. Three models have emerged to date. One model is that of reformed state agencies (e.g., New South Wales Land Titles Office) which still operate within the government ministerial environment, but their chief executives are charged with meeting government targets for revenues and expenditures and are held

accountable. A second model is government corporations (e.g., New Brunswick Geographic Information Corporation) which have more independence (with their own Board of Directors and multi-year business plans) although they are ultimately responsible to their shareholder, the government. The third model is private utilities (e.g., Teranet in Ontario) which may consist of a private company or a public-private sector partnership. In either case, private capital is invested in improving the registry function and it is then run as a private business for some agreed upon period of time (e.g., ten years). It functions as a regulated utility in the sense that the government retains some control over the structuring of fees and has the ultimate public custodial role for the registered documents.

Secondary Mortgage Market Institutional Arrangements

Registering mortgages is an important function of the land registration systems described above. Further dealings with mortgages through securitization (bundling mortgages together and repackaging them as tradable securities) is becoming increasingly prevalent in high-income countries (Home hunger 1995, 81).

Secondary mortgage markets began in the U.S.A. when the concept was actively promoted by the federal government following the Great Depression. In 1934, Congress created the Federal Housing Administration (FHA) to remove many of the risks involved in lending money for real estate mortgages. By developing standardized criteria to be used in estimating the value of a parcel of land and the credit ability of a borrower, the FHA encouraged lenders to make funds available (Sirota 1983, 46). At the same time, Congress created the Federal National Mortgage Association (better known as "Fannie Mae") to purchase FHA mortgages. This was achieved by selling short-term bonds that paid a relatively low interest rate (since they were issued by a government agency) and then using the money from the bond sales to buy FHA mortgages which paid a higher interest rate (Wiedener 1995, 62). After World War II, Fannie Mae was authorized to purchase Veterans Administration (VA) mortgages. These two types of mortgages have special

significance: the FHA does not provide loans directly but insures mortgage loans that are made by FHA approved lenders provided that certain standards are met; the VA guarantees, insures, and makes direct loans (Dasso and Kuhn 1983, 208).

The secondary market began to change significantly in the late 1960s. Fannie Mae was converted to a quasi-governmental, profit-oriented corporation listed on a stock exchange in 1969 and the following year was authorized to purchase conventional residential mortgage loans (i.e., those not insured, guaranteed, or granted by the FHA and VA). Some of Fannie Mae's original functions could not be undertaken by a profit-oriented corporation and so the federal government created the Government National Mortgage Association (better known as "Ginnie Mae") to assume those functions. Importantly, Ginnie Mae was authorized to guarantee mortgage backed securities created when mortgage banks, commercial banks, and others pooled mortgages insured by the FHA or guaranteed by the VA. In essence, Ginnie Mae guarantees the purchasers of such mortgage-backed securities that they will receive the interest and principal due to them. A third federal creation, the Federal Home Loan Mortgage Corporation (known as "Freddie Mac") was founded in 1970 to develop a secondary market in conventional mortgages primarily to benefit savings and loan organizations. Until that time, neither Fannie Mae nor Ginnie Mae were authorized to deal in conventional mortgages (Dasso and Kuhn 1983, 208-210). A fourth corporation, the Federal Agricultural Mortgage Corporation (known as "Farmer Mac") was created in 1987 and is patterned after Ginnie Mae as an underwriting agency for pools of farm loans (Wiedener 1995, 69).

Fannie Mae provides loan originators such as financial fiduciaries and mortgages bankers with an opportunity to roll their money over. Loan originators secure a large portion of their mortgage investment incomes from origination and collection fees as well as from the interest charged on their loans. As a result, the more loans they can create, the higher their profits. By selling mortgages at par (or even below par), loan originators can secure more money for making additional loans thereby collecting more origination fees.

At the same time, loan originators can retain service rights (thereby earning collection fees) on the old loans (Sirota 1983, 104).

Ginnie Mae provides loan originators (as well as authorized dealers in approved mortgages) with an opportunity to secure additional capital for lending purposes by pledging a pool of their existing loans as collateral to back up a securities issue. In this case, the originator does not sell the mortgages (as is the case with Fannie Mae) but instead uses them to leverage additional funds (Sirota 1983, 108). Ginnie Mae's role in this was unanticipated. Its primary function was to implement special assistance for housing as required by government and to manage the portfolio of loans assigned to it. The success that Ginnie Mae had in managing its loan portfolio rather overwhelmed the original intent. To liquidate some of the loans acquired when Fannie Mae went public, Ginnie Mae created pools of these loans and issued a guarantee certificate backed by the pools. This concept became the standard mechanisms for converting mortgage loans into more salable securities (Wiedener 1995, 66).

A major factor of the growth of the American secondary mortgage market is federal agency underwriting. However, federal funds account for a very small percentage of the loan market. Most money that funds mortgage loans originates from private sources: individual and company savings (in the form of savings accounts, money market accounts, and certificates of deposit), premium reserves for policy holders held by life insurance companies, retirement programs, mutual funds, and pension funds (Wiedener 1995, 22). The federal guarantees are funded by charging fees for the services. For example, the FHA secures its funds to cover defaults by imposing an initial service charge and annual mortgage insurance premium on each loan (Sirota 1983, 89). Ginnie Mae obtains its funds by collecting a service fee and a guarantee charge from the principal and interest payments as they are forwarded to the investor (Duett 1990, 4).

While the federal government role is considered to be important, it has shrunk since the start of the 1970s. With change in regulations regarding default insurance in 1972, the

private mortgage insurance industry blossomed (Wiedener 1995, 58). In particular, much of the growth in mortgage-backed securities has come through the participation of financial institutions which collateralize their own pools of mortgage loans. Indeed, as the volume of the secondary market has grown, new participants whose primary business is unrelated to mortgage origination increased their involvement. At times, this has come through specially created subsidiaries developed by organizations (such as General Electric, General Motors and Sears) for the sole purpose of operating in the secondary mortgage market (Weidener 1995, 70; Duett 1990, 1).

Personal Property Institutional Arrangements

Trends in Secured Financing Using Personal Property

As with the case of real property, personal property institutions have undergone significant reforms in some jurisdictions. A significant example of reengineering personal property arrangements occurred in the U.S.A., largely because of the enormity of problems being experienced by borrowers and lenders. As the economy of the United States developed, so too did the credit needs of businesses. Since the traditional security device of real estate mortgages was insufficient to meet this growing demand, a variety of new devices were created: chattel mortgages, conditional sales contracts, lease agreements, consignment sales, trust receipts, factor's liens, and the assignment of accounts receivable (Lakin and Berger 1970, 16-45). Each of these security devices was developed from separate legal justifications. From an economic perspective, they were highly inefficient. A borrower wishing to secure a loan often had to use more than one transaction, e.g., chattel mortgage for equipment, conditional sale contract on vehicles, and trust receipts for inventory (Baker 1983, 4).

Moreover, the degree of security afforded was questionable. Each security device had its own artificial distinctions in terms of execution (e.g., chattel mortgages required

acknowledgment that conditional sales contracts did not), and each had its own system for public recordation (e.g., some states required recordation for chattel mortgages but not for conditional sale contracts). The parties could never be sure whether a transaction they had set up as one security arrangement (e.g., a conditional sales contract) would be later determined by a court to be something else (e.g., a chattel mortgage). The typical result of such a ruling was to deprive the lender of the security interest against competing creditors (Baker 1983, 5). As a result, secured lending was risky, difficult, and cumbersome (Lakin and Berger 1970, 57).

In the face of rising demands for drastic revisions to the law, the National Conference of Commissioners on Uniform State Law promoted the Uniform Commercial Code (UCC) which Lakin and Berger (1970, 63) viewed as "the most ambitious codification ever undertaken in the Anglo-American legal system". Secured financing is addressed within Article 9 of the UCC. A major innovation of Article 9 was the replacement of all the previously existing forms of security devices with a single lien called a "security interest" which is defined as an interest in personal property or fixtures which secures payment or performance of an obligation. By sweeping away artificial distinctions between security devices, the reform made secured lending simpler and legally safer, thus reducing the cost of credit (Lakin and Berger, 67-72). However, the type of collateral involved (e.g., tangible, intangible, and documentary) still determines the rights of the debtor in the collateral after defaulting, etc. (Lakin and Berger, 92).

A second innovation is that it is sufficient if the description reasonably identifies the collateral. Prior to the reform, security instruments had to include precise details of the collateral which had unfortunate effects at times. An equipment serial number incorrectly entered in the document was enough for some courts to rule that the lender no longer had a secured interest in that equipment (Lakin and Berger 1970, 82).

A third innovation introduces a "floating charge" which accommodates the provision of loans on a continuing basis. Before the reform, a new security agreement had

to be executed by the debtor every time new equipment, inventory, or accounts receivable was acquired. Article 9 of the UCC allows for the security agreement to provide that the obligations of the debtor to the secured party include all future loans made by the secured party to the debtor. If such a provision is not included, then only the present loan is secured and future loans made by the lender to the debtor will be unsecured (Lakin and Berger 1970, 84).

A fourth innovation introduced "notice-based" financing, or notice filing. To perfect a security interest, it is sufficient that the document, signed by the debtor, contains an address of the secured party from which information containing the secured interest may be obtained, a mailing address of the debtor, and a description of the collateral. In other words, what is filed is not the security agreement itself, but a simple notice that the secured party who has filed may have a security interest in the collateral described. Additional information must be obtained from the parties concerned and a statutory procedure is provided for this purpose (Lakin and Berger 1970, 141).

Relevance to Secured Financing Using Real Property

The reforms to secured transactions in personal property as set out in Article 9 have been adopted virtually throughout the U.S.A. and formed the basis for legislation in Canada as well. The success that New Brunswick enjoyed with its Personal Property Security Act and computer-based personal property registration system has prompted that province to similarly reengineer procedures for consensual financing on the security of land.

New Brunswick's proposed Land Security Act is intended to simplify the legal framework and consolidate the law regarding secured financing in land into a single statute. Rather than differentiate among mortgages, equitable charges, etc., the proposed act adopts the generic terminology of a "secured interest". Certification requirements for making the agreement legally valid are to be simplified. This is possible because of the codification of

some terms and conditions typically found in a security agreement as well as the move towards a notice-filing system. The financing statement—the notice instrument to be filed—sets out the minimum information needed to alert a searcher to the fact that a security interest has been taken in the relevant land parcel (Walsh and Siebrasse 1995).

A second objective of the proposed Land Security Act is to harmonize the legal regimes governing secured financing in real and personal property. One area of concern is that of the registration of judgments and after-acquired land. Under the province's "deeds registry" system, a memorial of judgment binds all land acquired by the judgment debtor for a period of five years following its registration. This policy is not applicable to parcels registered in the provinces "land title" system because of the need to maintain the conclusiveness of the register. To provide consistency between the "deeds" and "titles" systems, the proposal calls for registration of a notice of judgment in the Personal Property Registry to have the effect of binding personal and real after-acquired property of judgment debtors as against subsequently registered security interests. In the case of the "deeds registry", registration of a notice of judgment in the Personal Property Registry will bind all present and after-acquired lands of the judgment debtor that are subject to registration in the "deeds registry" system. In the case of the "title registry", a similar result will be achieved by requiring those who present a transfer for registration in the title register to include an affidavit stipulating the results of a search of the Personal Property Registry. If the search discloses a judgment against the name of the transferee, this will be noted in the title register as an encumbrance on the title of the transferee (Walsh and Siebrasse 1995).

Effectiveness of Formal Institutions and Administrative Arrangements

The effectiveness of formal institutions and arrangements, particularly those associated with government, has long been under scrutiny in high income countries. As early as 1969, Peter Drucker argued that:

> There is mounting evidence that government is big rather than strong; that it is fat and flabby rather than powerful; that it costs a great deal but does not achieve much. There is mounting evidence that the citizen less and less believes in government and is increasingly disenchanted with it. (Drucker 1969, 212).

Land administration was one of the first areas of government to feel the brunt of this disenchantment. In 1978, Californian citizens voted in favor of Proposition 13, a radical initiative that amended that state's constitution to sharply reduce property assessments and thus taxes and restrict their future growth. The message of Proposition 13 was the centerpiece of neo-conservative political ideologies which came to prominence in the 1970s: eliminating bureaucratic waste would make it possible to cut both taxes and public spending without the loss of valued services, and less government would enhance both the personal freedom and personal finances of citizens (Sears and Citrin 1982, 2). In the following decades, considerable efforts were expended debating how to make institutions and administrative arrangements more effective (Savas 1982, 1987; Donohue 1989; Osborne and Gaebler 1992). But despite complaints from citizens, institutions in high income countries are relatively effective as is evidenced by their strong land and credit markets.

North (1990, 99) argued that some of this effectiveness results from history: a path that starts off being productive continues in the same way. In North's example, the basic provisions of the Northwest Ordinance of the U.S.A., with its easy transfer of land, reduced inefficiencies in some subsequent land acts of the nineteenth century. Unproductive paths persist as well, and the costs associated with unproductive paths are significantly higher than those of even inefficient institutions of a productive path.

In general, low income countries have had difficulty providing their citizens with formal recognition of their property rights. Until recent reforms in Peru, for example, transferring vacant state land from the government to an informal settler required 207 bureaucratic steps involving 48 different government offices in six different state departments (de Soto 1989, 136). Of course, the wheels of government worked more quickly for the rich. In Bolivia during the 1980s, the titling agency could grant titles to very large farms within a year or two while applicants from smallholders had to wait a

dozen years (Binswanger et al. 1993, 65). To overcome this problem, systematic titling and registration initiatives were implemented, sometimes as the central component of a project but more frequently as a minor component of a development project. In many cases, projects were rendered ineffective because of an overall lack of political support, conflicting bureaucratic priorities, a lack of institutional capacity, and an underestimation of the complexity of the tasks to be carried out (Wachter and English 1992, 9-16). Indeed, Holstein (1993, 11) contended that on occasion project designers did not understand what was being requested when they specified that title documents were to be issued.

And even when properties have been formalized, institutional and administrative arrangements often result in high transaction costs which discourage people from registering subsequent transfers (e.g., sales, gifts, and inheritances) and subdivisions. As a result, where land has been titled and registered, there is often a wide gap between the land register and actual patterns of land use and access (Haugerud 1989, 66-67; Atwood 1990, 663; Stanfield et al. 1990, 20).

Property Institutions and Administrative Arrangements in Low Income Countries

This chapter described how property, as an institution, serves to reduce uncertainty in human interaction. Administration is the operational component. In high income countries, most property is administered through formal means, for example, interests are registered in land and personal property registration systems. As new relationships emerge, for example between real and personal property, administrative tools such as formal registration systems change in response.

Because most property in low income countries is held informally, most of it is administered through informal means. Policies, laws, and organizations that impact on the property are mostly informal in nature. Moreover, the formal institutions and administrative arrangements that exist in low income countries tend to be inefficient and ineffective. How do these institutions and administrative arrangements provide certainty?

In the context of property interests, certainty is associated with security. The counterpoint of security is risk. In the next chapter, issues of security and risk management related to property are considered.

CHAPTER 4
PROPERTY-RELATED SECURITY AND RISK MANAGEMENT

Development of a Model of Security

In the context of property, security implies certainty. S.R. Simpson (1976, 8) suggested that people have security of tenure if they are secure or safe in their holdings of land. There is, of course, scope for great variation of such tenure: a person may hold a meager set of rights or a large bundle, and those rights may be held for a short term or indefinitely. Legal aspects of tenure affect economic aspects. If all other factors are held constant, the greater the number of rights that a person holds, the greater the economic value of the holding is to that person. And the longer the time horizon, the more likely the holder will recoup with confidence the full income stream generated by any investment. For example, in rural lands where land rights are secure for each growing season, insecurity is less of an issue for short-term inputs (such as fertilizer) than for capital long-term improvements (e.g., irrigation schemes) with benefit streams reaching some years into the future (Place et al. 1993, 20).

For this research, security in a person's interests in property is regarded as the degree of confidence that the person's claim to those interests will be first recognized by others in general and, second, enforced in cases of specific challenges. This section develops a conceptual model of "net security" enjoyed by a person, i.e., the calculus of security provided from formal and informal sources. The model is subsequently used to identify the effects which formal registration systems may have on the behavior of owners and creditors, and hence the incentives that may encourage people to update registration systems.

Sources of Security

Security may be viewed as having a number of sources. One approach is to identify dimensions of security afforded by the community, the polity, the legal system, and coercive organizations.

Security afforded by the community. When neighbors recognize and enforce a person's property rights, that person's security tends to increase. In high income countries, recognition by the community of a person's property rights in land may frequently revolve around whether neighbors accept a common boundary, although in rural areas recognition and enforcement may be more complex. For example, Ellickson (1991) documented how neighbors in a western U.S.A. county adopted informal rules for settling disputes arising from property damage caused by straying cattle, while Netting (1981, 60) described how Swiss villagers regulate property rights to communally-held pastures. In low income countries, particularly in "customary" rural tenure systems, people typically gain property rights through membership in social communities. Maintaining property rights validates membership in a group just as much as membership facilitates the acquisition of property. It entitles a person to make claims on resources which are controlled by the group or by its individual members (Berry 1989, 41-42; Cross 1991, 72). Informal urban settlements may also exhibit strong communal solidarity, particularly in those rapidly developed ones of Peru and Mexico. Members of such a settlement are assigned their parcels, often by lottery, by the newly-formed community organization which may also administer the transfer of property (Mangin 1963; Collier 1976, 22; de Soto 1989, 19-26; Cymet 1992).

Security afforded by the polity. When the political state recognizes a person's property rights, that person gains security. In high income countries, governments tend to accept a person's right to possess specific property; dispossession occurs generally through expropriation of the property to serve some public good, or seizure as penalty. Furthermore, dispossession is expected to follow some accepted form of due process. In

low income countries, governments do not often formally recognize their citizens' possessions. For example, official opposition to informal urban settlements around Lima included evictions accompanied by beatings, destruction of the settlers' possessions, and at times, killings of some settlers (Mangin 1968). Settlers soon recognized that the larger their community was, the more difficult it became for government forces to evict them. In 1961, the Peruvian government introduced legislation which recognized the right of existence of existing informal urban settlements but prohibited the formation of future settlements. This law, of course, did nothing to stop the creation of new settlements and, over the years, a series of laws was enacted to provide residents of newly formed settlements with the security that they would not be evicted.

Security afforded by the legal system. A person's security of property rights may increase when those rights are protected by the formal legal system (which is regarded here as including regulated technical activities such as cadastral surveying and mapping). Indeed, in high income countries security is perhaps viewed exclusively as legal security. Perhaps, as a result, titling and registration projects in low income countries have traditionally been promoted as a means of increasing security.

Security afforded by coercive organizations. Organizations beyond the political-legal state and the community may provide a person with security. Such organizations may take many forms but are characterized in this research by coercive structures that emerge in response to market failure and the absence of a strong state. For example, Gambetta (1993, 1-33) argued that the Sicilian Mafia came into being when property rights and contracts were not being enforced by any legitimate body. In such circumstances, transacting parties suffer a high degree of distrust which generates a demand for guarantees on both sides of the transaction. Gambetta showed that demand for protection is met by the Mafia in a variety of ways: both parties may be protected at the same time, or either buyers or sellers. This protection is not necessarily always extortion since it may be willingly paid for as a substitute for trust. It is, however, inefficient. The Mafia has an interest in

maintaining a high level of distrust in the market to increase the demand for the good it sells (i.e., protection), for if the transacting parties were to develop trust among themselves, the Mafia would lose its business. Gambetta argued that a similarity between Russia and nineteenth century Sicily is no accident:

> From an analytical point of view, feudalism and socialism share certain characteristics. In both types of societies very few people are entitled to own private property, and those who do also hold the monopoly on the use of force. When these societies come to an end, the results with respect to property are identical: there is a dramatic increase in the number of property owners and of transactions involving individuals with property rights. In addition, the monopoly on the use of force is not transferred to the new class of property owners. The consequence is a phenomenal increase in the fear of losing property and of being cheated and, correspondingly, in the demand for trust: trust in other people and trust in whoever has the power to enforce property rights. As we know, it does not automatically follow that this demand will be promptly met by the state, especially one whose legislation and bureaucracy are inextricably linked to the previous regime. A few years after the breakup of the Soviet Union there was still no clear property rights legislation or administrative codes of practice, let alone were there authorities equipped to enforce them. Adjustment takes time. Meanwhile, opportunities for private suppliers have soared. (Gambetta 1993, 252-253).

Such protection may also be provided by political revolutionary groups like Peru's *Sendero Luminoso* (SL) and *Movimiento Revolutionario Tupac Amaru* (MRTA) which embarked on struggles against formal government and each other for control of settlements. In many settlements SL emerged as the dominant force. Community leaders who opposed SL were often run out of town or assassinated and residents were forced into an uneasy coexistence in order to survive. (See, for example Poole and Rénique 1992.)

Net Security

A wide range of security exists within the four-dimensional space identified above (i.e., security provided by the community, polity, legal system, and coercive organizations). The net security enjoyed by a person can be regarded as the calculus of security provided along each of the four axes. In high income countries, net security is usually high since the community, polity, and legal system all offer high security, and since the existence of a strong state minimizes or eliminates the role of coercive organizations. In

low income countries, net security may be lower for a number of reasons. Inadequate state capabilities may result in the emergence of inefficiency-promoting coercive organizations, which in turn may prevent the development of strong communities and legal systems. Beyond this, security afforded along one or more dimensions may be reduced, for example:

High community security; low political and legal security. A typical case may be a cohesive squatter settlement, situated on vacant state land, which is threatened with eviction by the government.

High community and political security, low legal security. An example is a cohesive squatter settlement where the government has conceded that it will not be evicted. Clientalism or paternalism can lead governments at times to tolerate, or even encourage settlements. Failure to give legal security in these cases emphasized the requirement for political loyalty on behalf of the communities.

High community and legal security; low political security. Titled owners may face eviction by the state for political reasons. Examples include forced resettlements carried out by governments, and the eviction of McDonald's from its 20 year land use site in Beijing (Ultimate takeaway 1994, 36). While all legally-held land is subject to the sovereign powers of eminent domain, in these cases accepted practices of "due process" may appear to be subverted for political ends.

High political and legal security, low community security. In these cases, a community gives no security to a person who may have high political and legal security. Instead, the community may support someone who has no political and legal security. For example, family and neighbors of a loan defaulter may threaten, or even physically prevent, a new purchaser from taking occupation of the parcel (Migot-Adholla et al. 1991, 169; Shipton 1992, 375).

Changes in Net Security

The relationship between the four dimensions representing sources of security may be potentially complex. In many cases, increasing security along one or more of the dimensions will result in an increase in net security. But in some cases an increase in one dimension may result in no change, or even a decrease, in net security. An obvious example is the effect of an increase in security afforded by coercive organizations since this will tend to decrease the level of security provided by the other three sources.

Somewhat less obvious is the possibility that an increase in security afforded by the legal system may result in a decrease in net security. Evidence has been presented that titling and registration projects have reduced security enjoyed by many rural residents since they often concentrated a number of overlapping interests in a parcel in the hands of one individual. Claims of subordinate rights-holders (very often women and the poor) to conditional, partial, or common access tend to be neglected (Atwood 1990, 661; Shipton and Goheen 1992, 316). And if the new legal records produced by those titling and registration projects do not eclipse the original formal ones, tension exists between the *de jure* and *de facto* rights to land. As a result, attempts to provide increased legal security can increase the number of disputes (Haugerud 1983, 76; 1989, 65).

Risk and Risk Management

Risk is associated with uncertainty. It is the counterpart of security: the greater the risk, the lower the security. In practice, no single definition of risk exists; professionals dealing with risk (e.g., economists, decision theorists, behavioral scientists, statisticians, actuaries, etc.) each use their own concept of risk.

For the purpose of this research, risk is regarded to have the three following elements: indeterminacy, loss, and choice. First, the outcome is in question. Of course, in some cases the final outcome may be certain but the indeterminacy exists with regard to time. For example, death of a person may be certain but prior knowledge of when that

death will occur is unusual. Second, at least one of the possible outcomes is undesirable. Third, the person exposed to the risk can take actions that increase or decrease the chance of loss and/or its magnitude. That is, there is an element of decision-making and information processing. There is no risk if loss cannot occur, or if it has occurred or must occur, since no uncertainty (and choice) exists. (See MacCrimmon and Wehrung 1986, 9; Greene 1978, 28; Rejda 1992, 5; Vaughan 1992, 4). A loss may take many forms, e.g., financial, health, social, mental, etc. Furthermore, a loss may be a real loss (i.e., the outcome is worse off than the present position) or an opportunity loss (i.e., the outcome is not as good as some other outcome that might have been obtained) (MacCrimmon and Wehrung, 10).

Classifications of Risks

Risks have been variously classified as pure or speculative, particular or systemic, and objective or subjective. (See Greene 1978, 30-32; Greene et al. 1992, 4-6; Rejda 1992, 5-12; Ting 1988, 188-192; Vaughan 1992, 8).

Pure and speculative risks. Pure risk is associated with situations where the outcome is adverse or neutral. That is, there is a chance of loss or no loss, but no profit. For example, the risk associated with a registry office being destroyed by fire is a pure risk. Loss can occur in two ways: direct and indirect. A direct loss may result from the physical damage or theft (e.g., the physical damage to the registry caused by fire). An indirect loss may arise from the occurrence of a direct loss (e.g., the expenses associated with continuing to operate at some alternative location). Speculative risk is associated with situations in which either gain or loss is possible. For example, the risk assumed by a lender providing a loan secured by a mortgage registered in the registry is a speculative risk since the mortgagee intends to profit from the loan. The mortgagee, of course, may suffer a loss if the mortgagor defaults and an illiquid property market prevents the mortgagee from benefiting from a sale of the property rights. Pure risk is insurable under traditional

insurance conventions while speculative risk is not. However, Ting (1988, 192-193) noted that this traditional classification is gradually weakening as insurance industries are beginning to extend insurance coverage to fields that are essentially speculative risks, e.g., mortgage insurance, etc.

Particular and systemic risks. A particular risk involves losses that are felt by individuals rather than a large section of the population. For example, a fraudulent transfer of ownership registered in a land registry may cause loss to a single individual. A systemic risk (or fundamental risk) affects a large number of persons. That is, it is impersonal in nature and consequence, and is in essence a group risk. For example, a risk of a disaster such a fire which destroys the entire records of a registry office is a systemic risk.

Objective and subjective risks. Objective (or statistical) risk is the relative variation of actual loss from expected loss and can be statistically measured by some measure of dispersion such as standard deviation or coefficient of variation. Objective risk declines as the number of exposures increases since, following the "law of large numbers", future loss experiences can be predicted more accurately. Objective probabilities used to determine probable loss can be based on deductive reasoning (i.e., *a priori* probabilities) but in most cases inductive reasoning (i.e., *a posteriori* probabilities) must be used, for example, through analysis of past experiences. Objective risk thus has little meaning when applied to a single event or small number of events. Subjective risk cannot be quantified in the manner of objective risk and it is dependent on individual behavior (e.g., risk taker or risk averter). Two people (e.g., two potential buyers or mortgagees) in the same situation may have different perceptions of risk and so may behave differently. Subjective probability is an individual's personal estimate of the chance of loss and may differ considerably from objective probability.

Peril and Hazard

Risk is associated with perils and hazards (See Greene 1978, 28-29; Greene et al. 1992, 10-11; Rejda 1992, 7; Ting 1988, 189; Vaughan 1992, 7).

A peril is regarded as the immediate cause of loss and can take many forms, e.g., fraud, theft, fire, lightening, etc.

A hazard is a condition that increases the frequency and severity of loss arising from a given peril. Hazards may take several forms , i.e., physical, moral, and morale. A physical hazard is a physical condition that increases the chance of loss. For example, if a registry is housed in an old building with defective wiring, the wiring, the construction material, and the property location may constitute physical hazards that affect the peril of fire. Moral hazard is dishonesty or character defects in an individual that increase the chance of a loss. For example, an arsonist setting fire to the registry office illustrates moral hazard. In insurance, adverse selection means that people who obtain insurance tend to be those who need it most, i.e., those with a greater probability of loss than the average. If moral hazard is unchecked, actual losses will be higher than expected losses. Morale hazard is carelessness or indifference to a loss because of the existence of insurance. It refers to people who are insured who are simply careless about protecting their property because the property is insured against loss.

Risk Management Techniques

Risk management is the process used to manage exposure to risk. Several standard risk management techniques have been developed (See Greene 1978, 14; Greene et al., 1992, 22-25; Rejda 1992, 12-15; Ting 1988, 193-199; Vaughan 1992, 10-29). These techniques include:

Avoidance. By consciously not engaging in the action that gives rise to the risk, the chance of loss is reduced to zero. For example, a flood loss can be avoided by not building

a registry office in a flood plain. Risk avoidance is thus a negative technique rather than a positive one. But as a practical matter, not all risks can or should be avoided.

Loss frequency reduction. This technique is a form of loss reduction whereby the chance of loss occurring is reduced. For example, forbidding people to smoke in registry archives may reduce the frequency of a fire occurring.

Loss severity reduction. Implementing measures to reduce loss frequency may have significant results, but some losses will inevitably occur. Loss severity reduction measures are designed to reduce the magnitude of a loss after it occurs. For example, installing a sprinkler system in the registry may allow a fire to be extinguished immediately.

Risk distributing transference. Some risks may be shared with others by transferring it to insurance companies. By pooling large numbers of similar exposure units exposed to the same perils, losses sustained by a few can be shared by the entire pool. Pooling also brings the law of large numbers into operation and so enables future losses to be calculated with some accuracy. Of course, insurance does not decrease the uncertainty for an individual as to whether or not a loss-making event will occur but it does lessen financial loss should the event occur. It brings certainty to the insured by substituting certain costs for uncertain losses. Since pooling is the essence of insurance, simple insurance is not appropriate for catastrophic loss (i.e., when most or all of the exposure units in a certain class simultaneously incur a loss). In such cases, reinsurance transfers some of the risk of the insurer: the reinsurer becomes responsible for the payment of excess losses that exceed a specified limit.

Risk shifting transference. Risk may be shifting to others through a variety of means. For example, the incorporation of a business limits the liability of stockholders. As a result, the risk of a business having insufficient assets to pay business debts is shifted to the creditors. Other forms of shifting risks include guarantees, hold harmless agreements, and contracts with others, e.g., professionals such as lawyers, surveyors, etc. Title insurance, despite its name, falls into the category of risk shifting rather than risk

distribution. The premium paid to the title insurance company is for services rendered by the title insurance company in searching the title, and not for insurance against some fortuitous contingency.

Retention. This strategy is essentially acceptance of the residue of risks which have not been avoided, reduced, or transferred. Active or voluntary retention means that the risk holder is consciously aware of the risk and deliberately plans to retain it. In contrast, passive or involuntary retention occurs when certain risks are unknowingly retained because of ignorance, etc. Risk retention is often appropriate for high-frequency, low severity risks where potential losses are relatively small. However, risk retention in the form of self-insurance can be appropriate when an organization has a group of exposure units large enough to reduce risk and thereby predict losses. In such a case, the organization establishes a fund specifically to pay for those losses.

Risk Management Programs

A loss resulting from some risk incurs a cost. Using risk management techniques (e.g., avoidance, reduction, transference, and retention) to minimize the cost of a loss incurs other costs. It is assumed that a rational person will seek a strategy of risk optimization. That is, an attempt will be made to minimize the total cost associated with risk. This total cost is the sum of the costs of expected losses and the costs of lessening exposures to risk. Total cost of risk optimization is minimized when the marginal benefit and marginal cost of using risk management techniques are equal. In other word, escaping the loss should not cost more than the cost of the loss itself. Risk optimization thus differs from risk minimization which attempts to diminish risk to its lowest possible level irrespective of the costs associated with doing so. Risk optimization is achieved through a deliberate risk management program. Risk management is the general process of planning for, controlling, and reducing the impact of the incidence of risks as well as activities and

events that could lead to the occurrence of those risks. In other words, it includes both preventive as well as remedial actions regarding risk (Ting 1988, 35).

A risk management program may include a number of processes. Six processes are identified below. (See Greene 1978, 69; Greene et al. 1992; Rejda 1992, 49-57; Vaughan 1992, 33-37).

Determination of objectives. The first process involves determining what a risk management program should do. As Vaughan noted:

> In the absence of coherent objectives, there is a tendency to view the risk management process as a series of individual isolated problems rather than as one problem, and there are no guidelines to provide a logical consistency in dealing with the risks that the organization faces. (Vaughan 1992, 33)

Thus a primary objective of a risk management program may be to preserve the operating effectiveness of the organization in both pre-loss and post-loss periods. In other words, such a risk management program ensures that the organization is not prevented from obtaining its goals by pure risk or losses arising from those risks. Once objectives are chosen, risk management policies can be formulated.

Identification of potential risks. The second process involves identifying risks to which a given organization is exposed. Potential losses associated with these risks may include property losses; income losses; liability losses; death or disability of key people; losses resulting from job-related injuries or diseases; losses from fraud, criminal acts, and employee dishonesty; employee benefits loss exposures, etc. Information sources include physical inspections, risk analysis questionnaires, process and decision flow charts, financial statements, and historical claims data.

Evaluation of potential risks. The third process is concerned with evaluating and measuring the impact of losses. Potential losses may be evaluated using a matrix that classifies various loss exposures according to frequency, probable severity, and maximum severity. Severity and frequency may often be reduced to subjective judgments. Indeed, as Shapira (1994, 49-50) noted in his survey of executives, a common response was that

the risk associated with a venture is multi-dimensional and cannot be reduced to a single quantifiable construct. Any such evaluation requires some ranking of priorities. Vaughan (1992, 35) and Green (1978, 34) suggest a three-tier approach to determining how to treat risks:

1. Critical risks which are associated with extreme variability of loss. That is, they may result in the organization being unable to function. In commercial operations, this would include possible losses of a magnitude that would result in bankruptcy.

2. Important risks which are associated with large variability of loss. Some remedial action would be needed to recover from the loss. In commercial operations, this category would include risks large enough to require borrowing or selling of assets.

3. Unimportant risks which are associated with small variability of loss. In commercial operations, this category includes exposures in which the possible losses could be met out of existing assets or current income of the organization without imposing undue financial strain.

Selection of appropriate strategies for treating loss exposures. The fourth process involves selecting appropriate strategies for treating each loss exposure, based on its frequency, severity, and ranking. Strategies may include various combinations of the techniques of avoidance, reduction of loss frequency and severity, transference through risk sharing and shifting, and retention. From an economic perspective, each technique should be used when that particular technique represents the lowest cost approach to the particular risk in question (Vaughan 1992, 40).

Implementation of risk-management strategies. The fifth process concerns the implementation of selected risk management strategies.

Evaluation and review. The final process is an on-going one of evaluation and review to ensure that selected strategies take into account the appearance of new risks and the disappearance of some old ones. Moreover, strategies may be fine-tuned, or even changed radically, based on recent experience.

Security and Risk in a Land Market

Markets are the medium for exchanging property rights. Adam Smith (1976, 17) noted some two centuries ago, "the propensity to truck, barter, and exchange one thing for another" gives rise to the division of labor which in turn results in increased productivity and quality. Historically, markets tended to be thin, i.e., small in volume of trades and in the number of participants. High income countries saw a significant expansion of their markets following the industrial revolution and the growth of the commercial sector. Buying and selling of property rights became the hallmark of relationships between manufacturers, distributors, retailers, and consumers.

A land market represents an important type of property market. Property rights in land represent a large portion of the wealth of people throughout the world. In the U.S.A., they can account for over 40% of family assets, and in low income countries some 70% of family assets consist of land (de Soto 1993, 8). These assets become negotiable through a land market. Efficiency enhancing transfers enable the land to go to its best and highest use (Swynnerton 1955, 10). An efficient land market contributes to flexibility of the labor market. People who can move easily because of open housing markets are able to benefit from social and economic opportunities offered elsewhere (OECD 1986, 15). And very importantly, a land market underpins a credit market which is analyzed in the following section.

Imperfect Information and Imperfect Enforcement in a Land Market

A land market, like other markets, is characterized by uncertainty and risk in two areas: information and enforcement. These risks are heightened by moral and physical hazards. Some uncertainty regarding information arises for innocuous reasons. A prospective buyer may be uncertain as to which of two similar, but not identical, objects is best suited to his or her needs and desires. The buyer may seek out information of the characteristics of the objects in order to make an informed decision. A prospective seller

may trust the buyer but may be uncertain as to whether the full sales price can be recovered from the heirs should the buyer die before payment.

Considerable uncertainty regarding information may arise, not for innocuous reasons, but because of distrust. A rational prospective buyer may have a number of questions about the object. In the case of property rights in land, a prudent buyer will determine where the land is, what the boundaries are, how much land is involved, and what its value is. Moreover, that buyer will wish to determine whether the parcel of land is suitable for the purposes in mind (e.g., agricultural, residential, commercial, industrial, extraction, etc.) The buyer may well have questions about the seller, for example, will the seller renege on the deal? And is the seller really the owner of the land? In other words, will the buyer be able to take possession without being obstructed by some other person? A prospective seller also faces uncertainty: is the buyer able to pay the selling price and is that person willing to do so. Will the buyer renege on the deal? Each party to the transaction will seek information to reduce uncertainty but information gathered is itself uncertain. Each item of information must be evaluated and interpreted according its source in an effort to determine whether it can be trusted.

Reducing information asymmetry is only part of the solution; receiving protection from being wronged is as important. Parties, especially those who distrust one another, must obtain confidence that the sales contract will be enforced. As a Palermo cattle breeder interviewed by Gambetta stated:

> When the butcher comes to me to buy an animal, he knows that I want to cheat him. But I know that he wants to cheat me. Thus we need, say, Peppe [that is, a third party] to make us agree. And we both pay Peppe a percentage of the deal. (Gambetta 1993, 15).

Protection also comes in the form of dispute resolution. As Gambetta (170) illustrated, owing to the slowness of the courts in resolving litigation, people turn to the Mafiosi for intervention.

The issues of imperfect information and imperfect enforcement can be analyzed using the following framework adapted from Hoff and Stiglitz (1990):

1. Screening problem. It is costly to determine the extent of risks faced by each party in a sales transaction.

2. Incentives problem. It is costly to ensure that each party in a transaction honors all conditions of the deal.

3. Monitoring problem. It is costly to monitor whether each party in a transaction is in fact honoring the deal.

4. Enforcement problem. It is costly to compel one party to adhere to the agreement.

The problems of screening, incentives, monitoring, and enforcement are, to some extent, interlinked. In relatively closed land markets (i.e., those segmented along geographic lines and kinship groups), information is somewhat symmetric: the identity of those who possess transferable rights over specific parcels of land is reasonably well known to all members of the community. Furthermore, local village and kinship sanctions act as a mechanisms to enforce contracts. As a result, trust is relatively high. But from an economic perspective, the volume of transactions is low since trade occurs only between partners who are well known to each other. As land markets open up (i.e., as segmentation in land markets is reduced and labor mobility increases), transactions are more frequent among individuals who are not members of the same community and the problem of asymmetry of information becomes greater (Feder and Feeny 1991, 140). As outsiders play an increasingly large role, there is a commensurate increase in exogenous distrust which must be dealt with, directly or indirectly, through screening, incentives, monitoring, and enforcement. Distrust, of course, is not only exogenous; as Gambetta's cattle breeder illustrated, it can be endogenous.

Managing Risk in an Informal Land Market

Central to the development of a land market is the ability to identify parcels and their ownership. When land is held informally, a potential buyer may employ a variety of

measures to address the problems of screening, incentives, monitoring, and enforcement. The buyer may avoid doing business with an owner who represents an unknown quantity, and may look to lessen risks by dealing with someone who is trusted. The buyer and seller may seek to provide incentives to each other by providing publicity to the deal. For example, in the informal settlements of Lima, notice of transactions is often given at the regularly scheduled local community meetings. Such publicity provides an indirect incentive mechanism since the reputation of any defaulting party will be tarnished. And if a party fails to honor the agreement, community sanctions may be enforced against the offender.

Also central to a land market is the ability for a new owner to defend the newly acquired property rights against others, including the former owner. Again, community sanctions may be applied but these may not be enough to protect rights from being usurped by others. In Lima's informal settlements, a number of families feel the need for someone to remain on the property in order to protect the ownership rights. Since both parents often work this means that one of the older children stays at home rather than going to school. In one case, when an individual acquired a parcel in an informal settlement some distance from his work, he gave up his job and became a food vendor on the streets near his home in order to better protect his property rights.

Managing Risk in a Formal Land Market

Property formalization attempts to provide an additional set of measures to facilitate transfers in areas where trust is limited or lacking. A prospective buyer can address the screening problem by shifting some risk to the state (through the public registry), property professionals (such as lawyers and surveyors), and other commercial organizations (such as title insurance companies). An owner can reduce the risk by registering ownership in the public registry (for example, to gain priority over competing unregistered rights or even to gain some form of guarantee and indemnity). And the owner may have recourse to the

courts to enforce the ownership claims. Of course, risks transferred by a prospective buyer or owner must be assumed by others. The effects of such risk assumption is discussed below.

Some risks may be shifted to public registration systems. A prime objective of a registry is to lessen risk by reducing asymmetry of information between parties. Some registries reduce asymmetry only at considerable cost, others are more effective. A registration system may assume minimal responsibility, for example, establishing priority of documents filed (e.g., by noting when the instrument was lodged), maintaining the documents filed, and creating rudimentary cross-reference mechanisms (e.g., a grantor-grantee index) to retrieve information. In many countries, even low income ones, registration systems are required to do more.

Some registration systems aim at reducing risk further by requiring registrars to examine the validity of the transaction. However, in certain circumstances, attempts to reduce risk by detailed examination of incoming documentation may actually exacerbate the risks faced by a prospective purchaser. In one of Peru's public land registration systems, the *Registro de la Propiedad Inmueble*, it can take six months to examine and register transfer documentation prepared by the buyer's lawyer and notary. Registering mortgages involves similarly time-consuming procedures. Because of this delay, it is possible for an owner to mortgage the parcel after the buyer has satisfactorily concluded a search of the title and encumbrances. In such a case, the buyer will only discover the existence of the new mortgage when taking registered ownership some months later.

Some registration systems reduce risk by giving some form of guarantee and indemnity. A highly active system provides a positive guarantee of the conclusiveness of its registers: the person shown as owner is in fact the owner. A highly passive system merely acts as a library, taking no responsibility for the quality of information recorded in it. Between these positions, a system may provide a negative guarantee: there is no way that ownership of land can be acquired other than through the medium of registration; only

a person registered as owner may be the legal owner. Some registration systems indemnify injured parties regardless of the cause of the loss while others provide compensation only if the registry was negligent in some way. Still others provide no indemnity to persons suffering a loss as a result of registration.

In general, the less responsibility a registry system assumes, the greater the risk to the owner or prospective buyer unless those risks are assumed by some other actors.

One group of actors who assume some of these risks are property professionals. Legislation may require the legal and surveying professions to assume certain risks. For example, in Peru a sales contract has to be completed before a lawyer who is assigned responsibility for reducing fraud by properly identifying the parties in a sales transaction, and ensuring that they are legally competent to undertake the transaction (e.g., neither party is a minor). In many jurisdictions, the burden of providing a clear description of the land parcel falls to state-certified surveyors. Members of the public are afforded greater security when property professionals are liable for damages arising from negligent failure to perform their duties. The state may mandate the establishment of fidelity funds to indemnify injured parties, or damages may be paid by drawing on some form of indemnity insurance.

Some risks may also be assumed by the title insurance industry which is a peculiarly American invention; when it exists outside the U.S.A., it invariably serves the interests of American organizations. Title insurance originated from the limited protection that the work of American conveyancers provided the purchasers of real estate (ALTA 1978, 579). Unlike a lawyer's opinion, a title insurance policy may cover both claims arising out of "record defects" (i.e., title problems that should have been discovered in the public records and "non-record defects" (i.e., problems that even a complete registry search would not reveal, such as forgeries, instruments executed under an expired power of attorney, deeds delivered after the death of the grantor, undisclosed or missing heirs, etc.) Protection is further afforded to the purchaser in that the title company has (as long as it

remains solvent) an unlimited life (ALTA 1978, 621-622). It is arguable whether title insurance is a misnomer since it does not insure a person from loss in the event of some future occurrence (e.g., fire or flood occurring after the policy date). Instead, title insurance is concerned with conditions already in effect before the policy date (Beasley 1988, 74-75).

In effect, the title company merely insures the accuracy of the title search that it has made (Bernhardt 1993, 354). The title company issues a policy identifying specific listed conditions of the title and undertakes to indemnify an owner who suffers loss as a result of the discovery of a condition in existence when the policy was issued but not identified at that time by the title company. Rather than using the conventional insurance technique of risk sharing (i.e., pooling), title companies reduce risk by searching the public records to determine if any interests are outstanding. (This of course relates to policies that cover "record defects".) After this determination has been made, the policy is issued. In other words, the title company takes steps to minimize the risk that a policy holder will be subject to any adverse claim. Title searches and examinations prior to issuing policies "account for the overwhelming proportion of the costs incurred and the revenues realized by title insurance companies" (ALTA 1978, 584). Title searches are carried either on the basis of the public records themselves, or on the basis of information gathered, reorganized, and indexed in the title company's "plant". As the American Land Titles Association (ALTA) noted:

> A "title plant" contains virtually complete information from the numerous public records affecting real estate titles that has been reorganized and indexed in a manner that enables a title search to be performed in a fraction of the time and with greater accuracy than could a search of the public records directly (ALTA 1978, 586).

A clearer indictment of the inefficiency of American land registry systems could scarcely be provided.

Court systems may be assigned responsibility for resolving doubts (e.g., clearing a clouded title) and acting on other non-adversarial matters such as testamentary conditions in

the will of a deceased owner. As well, court systems come into play to manage disputes about property rights. Here, court systems are interpreted broadly to include not only decisions imposed by judges but also those reached using other formally recognized mechanisms such as mediation and arbitration. Mediation calls for disputants to play a constructive role in arriving at the resolution with the assistance of the mediator, whereas in arbitration (which may be binding or not) a decision is imposed by the arbitrator on the disputants.

Security and Risk in a Credit Market

Imperfect Information and Imperfect Enforcement in a Credit Market

As with land markets, participants in credit markets face the problems of imperfect information and imperfect enforcement. A lender exchanges money today for a promise of money in the future, and takes actions to make it likely that those promises are fulfilled (Hoff and Stiglitz 1990, 237). These actions aim at addressing, in either a direct or indirect manner, the problems of screening, incentives, monitoring, and enforcement. (See Hoff and Stiglitz).

First, lenders must screen potential borrowers to determine the likelihood that they will default. In a relatively closed market, information is fairly symmetric, being a by-product of geography or kinship. In other cases, a prospective borrower must build relationship-specific capital with the lender. When information is asymmetric, a lender cannot determine the risk of default merely from observing the prospective borrower since the risk is dependent on the borrower's credit history and the project to be invested in. When credit histories are not documented and pooled, the lender must spend considerable time and resources screening the applicant. Screening costs are increased by moral hazard since any source of information must be also screened for reliability. In some rural markets it can take two seasons (approximately one year) to build up creditworthiness with a lender

(Aleem 1990, 335). While this intensive screening reduces information asymmetry between lender and borrower, it increases asymmetry across lenders when credit histories are not shared. The fact that lenders prefer to deal with long-standing clients and take on new ones only after extensive inquiries makes it costly for borrowers to switch to other lenders (Bell 1993, 196).

Second, lenders must ensure that there are incentives which increase the likelihood of repayment. A lender may threaten action which deprives the chances of the borrower obtaining further credit; this may be done indirectly by threatening to tarnish reputations of defaulting borrowers. A lender may employ a group of the borrower's associates in the form of ROSCAs (Rotating Savings and Credit Associations) to ensure repayment: if the borrower defaults, the associates carry the risk. A lender may provide incentives by linking the credit transaction with other transactions. For example, a lender (e.g., a trader) who has given a loan to a farmer may offer the farmer lower prices on inputs such as seed and fertilizer (Hoff and Stiglitz 1990, 240-244). Alternatively, as in cotton-growing areas around Lima, a manufacturer such as a cotton mill may advance credit to its suppliers. When a Peruvian farmer had been granted title to the land, an often used form of security was the *entrega de título* where the lender takes physical possession of the borrower's title. The borrower's ability to sell the land without the approval of the lender is thus restricted.

Third, a lender must monitor the borrower's behavior to ensure that the loan is repaid. Monitoring may be relatively easy to do when the lender and borrower are in close proximity; it may be virtually impossible when the lender is a distant bank. Some projects are easier to monitor than others, for example, crops with fixed harvest periods are easier for a lender to monitor than those without (Hoff and Stiglitz 1990, 242).

Fourth, a lender must be able to enforce repayment if the borrower defaults. A complex set of interactions such as personal relationships, trade-credit linkages, use of collateral, etc., may be used to compel repayment.

Sustainable Credit

It is assumed that a rational lender will attempt to ensure that costs of lending money today do not exceed the return of money promised in the future. As a result, credit may be rationed on occasion; lending may be unavailable at any price (Hoff and Stiglitz 1990, 236). At other times interest rates may be high.

High interest rates in the informal sector have long been attributed to the monopoly power of the local money lender. Alternative supplies of cheap credit were seen as the answer to this perceived problem and, following World War II, governments of developing countries and foreign donors injected billions of dollars into credit programs for small farmers. Yet subsidized cheap credit had little effect. In many cases, when state banks provided subsidies, these were captured by politically well-connected farmers and not by the poor. These farmers tended to consider loans as grants attained through government patronage and had no intention of repaying (Seibel 1994, 22). When the state forced commercial banks to lend at artificially low interest rates, the banks found it difficult to mobilize savings. Because low interest rates (sometimes negative real rates) lowered the margin on lending, banks tended to ration credit to a few, generally the larger and wealthier borrowers (Heidhues 1994, 34). And when cheap credit was provided through donor support programs, project performance was rarely evaluated from a financial perspective. Instead, performance was measured using criteria such as the number of loans made, tons of fertilizer sold, or the number of cattle procured (Adams and von Pischke 1994, 144-149). These programs, as Adams and von Pischke (148) noted, were unsustainable because "they were expensive, collected too little revenue, depended too heavily on outside funding, and often suffered serious default problems."

Injections of cheap credit failed to reduce the high interest rates asked by informal lenders. These high interest rates were then perceived to be reflect perfect markets which took into account the risks of default. But informal markets have been found to be imperfect. They are highly segmented with interest rates of lenders varying by more than

may be accounted for by differences in default risks. Interest rates have not necessarily equilibrated the supply and demand of credit (Hoff and Stiglitz 1990, 236-237).

A current view is that high interests rates asked by informal lenders are the result of the high costs of addressing the problems of screening, incentives, monitoring, and enforcement (Hoff and Stiglitz 1990). A number of studies showed processing and administrative costs to be over 20 percent of the value of the loan made. In many cases, this is well in excess of the intermediary interest income (Braverman and Guash 1993, 55). In an analysis of one informal credit market, Aleem (1990, 344) found that marginal cost pricing would have led to losses for the large majority of lenders; instead, processing and administrative costs were covered by charging interest rates close to average costs.

A recent entry to credit markets is NGOs, particularly those from the international donor community. This reflects a shift from a concern of providing welfare and relief services to one of sustainability, i.e., helping people to increase their productions and incomes. This shift introduces a movement away from providing gifts to one of giving credit, but in general, NGOs still cling to the concept of cheap money. Abugre noted that NGOs remain unconverted to the idea of liberalizing financial markets:

> They remain averse to charging positive real interest rates, consciously or otherwise undermine traditional financial systems, and largely lack the discipline required for the provision of sustainable financial services. Donor NGOs are, after all, products of charity and have comparatively easy access to public funds. The urge to provide easy money to others is ingrained. (Abugre 1994, 158-159)

If an NGO regards the market interest rate of being too expensive, it must look for other ways to recover the high costs of lending. This is typically done by donors providing subsidies that range from 50-90 percent of operating costs of the program (Abugre, 170). Even Bangladesh's Grameen Bank, long regarded as the developing world's credit success story, is still dependent on outside funds to survive (Bouman and Hospes 1994, 13).

But if credit mechanisms are to last, they must be sustainable. Funds must be replenished through the local market. Dependency on foreign donors cannot be relied upon

since their funds may diminish or be diverted to new emergencies or new fads. Sustainable credit is dependent on the provision of business opportunities to local organizations.

Secured Lending

Risks associated with lending are reduced by requiring some form of property to secure a loan. A lender with a secured interest in collateral held by the borrower is protected should the borrower default; if that happens, the object can be sold and the net proceeds of the sale applied to reduce the loan. This rationale was at the root of changes in American banking policies during the second half of the nineteenth century when many banks failed because borrowers could not repay their unsecured loans (Lakin and Berger 1970, 4). A lender's requirement for collateral also reduces the chance that a lender will default. The threat of the borrower losing his or her equity in the object offered as collateral provides an incentive for the borrower to repay the loan. The more equity a borrower has in the collateral, the lower the risk to the lender. To provide this incentive when land is offered as collateral, a bank will typically provide a loan for only about 80% of the market value (Dasso and Kuhn 1983, 10).

Many borrowers, and particularly home buyers, borrow money out of necessity. Secured lending becomes a way of leveraging the owner's equity to borrow the balance of the purchase price. But secured lending also offers borrowers the opportunity to leverage their property rights in a speculative risk venture. That is, "other people's money" is used in an investment with the expectation that it will yield a return greater than the cost of borrowing the money (Dasso and Kuhn 1983, 18). Indeed, over half the loans to new businesses in the U.S.A. are secured by offering land as collateral (Matter of title 1995, 47).

When providing a secured loan, a lender must screen both the applicant and the collateral (Dasso and Kuhn 1983, 239). The screening process must determine:

1. The assets of the borrower, i.e., the ability of the borrower to pay the up-front costs of the loan. In real estate financing, this includes origination and discount fees taken by the lender as the cost of borrowed money.

2. The income of the borrower, i.e., the ability to pay the interest and principal amount of the borrowed money.

3. The credit history of the borrower, i.e., the willingness to meet the required debt obligations.

4. The market value of the collateral relative to the loan amount. A low loan-to-value ratio screens risk in two ways. By increasing the borrower's equity in the collateral, a low ratio provides an incentive to repay the loan. A low ratio also reduces the risk that the value of the collateral will decline to the extent that proceeds of a foreclosure sale will be insufficient to pay the lender's claim.

5. The borrower's claim to the collateral, i.e., the ability of the lender to foreclose and force a sale of the collateral in order to recover losses if the borrower defaults.

In the simplest form of security device, the lender takes physical possession of the collateral and returns it when the borrower's obligations have been met. As a result, the lender is secured against all risks except price fluctuation, depreciation, physical loss, or destruction of the collateral (Lakin and Berger 1970, 6). However, in a market economy, a person or business must invariably use the collateral in order to obtain the anticipated return on investment and so repay the loan. This has important implications since a lender cannot determine a prospective borrower's worth by relying on observations of ownership or possession. Some form of public notice is essential for creditors to satisfactorily manage their risks.

But when such information is imperfect, secured lending introduces its own distortions in the market. A common argument in favor of secured lending is that secured creditors will charge lower interest rates because the extra security reduces their risks, while unsecured creditors will impose higher interest rates because their risks increase (since the interests of secured creditors reduces the assets which the unsecured creditors can levy). Hudson (1995, 48) challenged this view, contending that unsecured creditors will charge higher interest rates only if they are aware of the existence of secured interests.

At least some unsecured creditors will be unaware of the existence of any secured interest because of information lags and search costs.

Conversely, because of such imperfect information, a lender who has charged high interest rates on unsecured loans in the past may have little incentive in reducing the interest rate on a secured loan. Instead, the secured lender may keep the interest rate the same as that being charged by neighboring unsecured lenders. It is thus assumed that a secured lender will tend to reduce interest rates so that they reflect more accurately the reduced risks only as a result of competition from other lenders providing similar secured loans.

Real Property Financing in the Primary Market

Financial institutions face a variety of risks when lending. Some are not directly relevant to this research, for example, financial and interest rate risks. (See Sirota 1983, 278-279.) Of interest to this research are risks associated with non-performing loans. Some of these risks are analyzed below.

A lender attempts to avoid the occurrence of non-performing loans by screening. A principal objective of a formal land registration system is to reduce asymmetry of information between parties. If an efficient registry can significantly reduce the costs faced by a lender when screening the borrower's claim to the collateral being offered as security, the lender will tend to use the system to register a mortgage. However, screening collateral is only one factor in a lender's costs. The lender must also screen the ability of the borrower to pay the up-front costs of the loan, the ability of the borrower to make regular payments of the interest and amortization of the principal, the willingness of the borrower to make the payments, and the market value of the collateral. If these other screening costs are high, reducing only the costs of screening ownership of the collateral will not necessarily result in lower interest rates. In low income countries, many of those who hold informal real property work in the informal sector. As such, they lack financial and employment records of earnings that formal lenders typically require. As well, credit

histories do not tend to be pooled; instead, a borrower is required to build up a credit rating with each lender. Getting credit from a new lender may be a time-consuming process.

Good land administration has the potential to assist lenders with screening the value of the collateral. Although most jurisdictions base the assessment value for taxation purposes on some formula involving characteristics of the parcel and its improvements, New Brunswick has adopted straight market values for assessment and taxation purposes. In large part, this has been possible because of the manner in which the province has integrated the land registration system with the property assessment and taxation system. However, in low income countries, early adoption of such techniques may be difficult. First, land markets may be thin for some years after formalization thus yielding too little data on selling prices. Second, while property taxation should be pursued in the long-term, too much of it too soon may act as a disincentive for people to register transactions. If taxation costs, added to other transaction costs, exceed the benefits of formal registration, people will have an incentive not to register ownership.

A lender attempts to avoid non-performing loans by providing incentives. For example, high front-end equity requirements (e.g., 20 percent) tend to tie borrowers to property ownership. A lender may also stipulate that the collateral cannot be sold without the lender's specific approval; if approval is not requested or secured, the lender then has the right to demand the balance of the mortgage be paid in full (Sirota 1983, 177).

Despite employing measures of screening and incentives, lenders may still encounter non-performing loans. Lenders may recover from defaulted loans through some form of mortgage insurance. In the U.S.A., the FHA insures against losses on real estate loans (which meet certain tests of acceptability) made by private lending institutions. The premiums are paid for by the borrower. Where a lender faces extra risk because of a loan greater than 80 percent of the value, private mortgage insurance can be obtained (Sirota 1983, 88-89; 183).

Lenders may attempt to recover from defaulted loans by repossessing the collateral. In doing so, they may face a number of problems. First, it may be difficult for a lender to take legal action. Where foreclosure is dependent on court action, processing may be time-consuming and cumbersome. For example, in Mexico a foreclosure typically takes 18 months, which is excessive when lenders need to recover by rapidly clearing books of non-performing assets (Commercial Office Market 1995). To avoid such lengthy delays, recent Peruvian reforms replaced the judicial mechanisms for foreclosure with administrative mechanisms. Second, even if legal action is possible, a lender may have to compete with others who have secured interests. Although a consensual lender may have priority over unsecured creditors, demands on the property may come from real estate tax liens and special assessments, income tax liens, other mortgage liens, and mechanics' liens (Dasso and Kuhn 1983, 89).

Third, even if legal action is possible, it may be difficult for a lender to repossess the collateral because of crime, lawlessness, and the resistance of neighbors and kin of the defaulter (Migot-Adholla et al. 1991, 169; Shipton 1992, 375). In South Africa, rent boycotts were employed as a form of political action against the apartheid government. The prime cause of boycotts has been eliminated (through the change in central, provincial, and local governments and increased opportunities for renters to become owners) but the tradition of boycotts, now centered on mortgage payments, continues. The South African government has agreed to indemnify banks should they be unable, due to crime or lawlessness, to repossess collateral used for a non-performing loan. The government's preferred approach is to rehabilitate the non-performing loans, rather than to evict the defaulting families and exacerbate homelessness (Taking microchips to townships 1995, 73; Thousands of loans still unpaid 1995, II).

Finally, despite attempts of lenders to forecast future trends in the real estate market, the value of the collateral at foreclosure may be insufficient to pay the lender's claim. In large part, Japan's banks have been undermined by a collapse in land prices

which destroyed the value of collateral against which they lent: the price of commercial real estate plummeted 85 percent in four years, while residential real estate values dropped by one third (Japanese property crumbling 1995, 71).

Real Property Financing in the Secondary Market

The secondary mortgage market in the U.S.A. flourished in large part because of development of appropriate standards and the provision of insurance or guarantees. The federal government contributed greatly by developing standards. The FHA standardized credit applications and borrower credit ability criteria so that all lenders who issued FHA-insured loans used the same terminology and procedures. It prepared standards for appraising property by establishing minimum construction standards. It also devised standardized long-term amortization loans; until then the principal had to be paid in full or the loan refinanced every five years (Sirota 1983, 94). Such standards, together with government underwriting, meant that FHA and VA loans were more liquid than conventional loans. Because of their greater liquidity, FHA and VA loans initially constituted the secondary mortgage market. More recently, Fannie Mae and Freddie Mac devised similar uniform instruments for conventional loans in order to increase their markets (Dasso and Kuhn 1983, 157, Wiedener 1995, 57).

A second pillar of the American secondary mortgage market was the provision of a variety of loan insurance and guarantees. Government underwriting in the form of FHA mortgage insurance and Ginnie Mae's guarantee of mortgage-backed securities played an important role in getting the market going. However, the funds for such insurance and guarantees came not from the federal government but rather from fees and premiums paid to the government agencies by borrowers as part of the cost of getting their loans. More recently, private mortgage insurance companies have entered the market to provide coverage against mortgage default. Some private financial institutions provide their own

form of guarantee for mortgage backed securities by over-collateralizing the security offering or by establishing cash reserve funds (Lore 1987, 9-29; Wiedener 1995, 58).

Title insurance has also been credited with increasing the negotiability of mortgages in the secondary market by removing nuisance burdens from the investors. When a title company issues a policy, it agrees to defend, at its own expense, against any law suit involving a defect in title covered by the policy. This can become useful as the secondary market expands from the parochialism of the primary market where lender and borrower are usually in close proximity. In the case of a faulty title, the buyer of a loan in the secondary market gets paid by the title company rather than having to fight a lawsuit in a distant city (Dasso and Kuhn 1983, 244).

The American secondary mortgage market has been buttressed by the federal government. The perception of a federal presence created a stable base from which the private sector could build (Lore 1987, 1-12). But can the government of a low income country provide such a perception of security? Nicaragua may provide one solution. That country has faced great difficulties attempting to resolve land distribution problems. Lacking cash for compensation, the Nicaraguan government planned to give long-term bonds to ex-landowners who settled their suits. These bonds could be held till maturity or used at face value to pay back taxes or buy government assets. Lack of investor confidence in the government resulted in so many rejecting the scheme that the bonds retained less than a fifth of their face value on the secondary bond market. To create more confidence in the issue, the Nicaraguan government has proposed that some proceeds from privatization sales be used to buy American treasury bills. These bills will be placed in trust to back the Nicaraguan government's compensation bonds (Nicaragua 1995, 29). A similar mechanism could be used to provide confidence in a secondary mortgage market.

Providing Formal Security in Low Income Countries

This chapter illustrated how security can be derived from a number of sources, e.g., from the community, polity, legal system, and coercive organizations. In low income countries, formalization aims at increasing security by allowing people to protect their interests through formal registration. It provides owners, creditors, and others with an additional set of risk management option. To be effective, formalization must enjoy support of communities and the polity, the other providers of "positive" security. But difficulties may exist even if communities and the state wish the citizens to hold formally registered titles.

Existing land registration systems in low income countries tend to register transactions for a relatively small percentage of parcels belonging to wealthy citizens. Large-scale formalization efforts may impose considerable strains on these registration systems as formalization brings in new types of clients (i.e., those who previously held their property rights informally) in potentially large numbers. Can a registration system be responsive to the needs of property owners with low incomes but yet still provide adequate security to creditors? In the following chapter, this issue is addressed by taking Peru as a case study.

CHAPTER 5
CASE STUDY OF SECURITY AND REGISTRATION IN PERU

Formal registration of property interests may add to a person's security. This research assumes that a person will register a transaction when the increased security (and the other associated benefits that follow) exceed the costs of doing so. Changing the transaction costs thus affects a person's behavior. Recent developments in Peru make it a useful test case to investigate the effect that changing security has on land and credit markets. This chapter analyzes these considerations by examining the two registration systems presently active in Peru: the *Registro de la Propiedad Inmueble* and the *Registro Predial*.

Registration Systems in Peru

Economic, Political, and Social Factors

The analysis covers the six years between 1990 and 1995, i.e., the period in which the *Registro Predial* has operated. These years, and those immediately preceding them, are characterized by considerable economic, political, and social flux. (See, for example, Poole and Rénique 1992.) Severe economic problems resulted in then-President Alan García's decision to stop servicing Peru's international debt in 1989. Hyperinflation was rampant: the annual inflation rate grew to 666 percent in 1988, increased to 3,400 percent in 1989, and in 1990 shot to almost 8,000 percent (Poole and Rénique, 4). After being elected president in 1990, Alberto Fujimori initiated a structural adjustment program (which became known as "Fuji-shock" because of the hardships it caused). In 1995, inflation was reduced to 12 percent.

From a political perspective, Peru has been under almost continuous election conditions. President Fujimori was elected in 1990 and in April 1992 he conducted a "self-coup" (*autogolpe*) by suspending Congress, the judiciary, and the constitution. Elections for a new Congress were held in October 1992. In January 1993 provincial and district elections were held. In some cases the installation of local governments was delayed for several months because no clear winners emerged or the results were contested. After deliberation a new constitution was prepared and narrowly approved in a national referendum held in October 1993. Presidential elections were held again in April 1995 when President Fujimori was reelected to office.

Social strife and tensions also ran high. In particular, the Maoist political group *Sendero Luminoso* (SL) controlled considerable parts of the country. In the early 1990s the Peruvian government stepped up its military presence in these areas. The capture of top leaders of SL in September 1992 resulted in that group playing a lesser role although it is still active.

The *Registro de la Propiedad Inmueble* and the *Registro Predial*

Although formal land grants were made by the Spanish Crown from the sixteenth century, it was only in 1888 that a registration system, the *Registro de la Propiedad Inmueble* (RPI), was established. Before that time, notaries acted as private registries; they were responsible for verifying transactions and maintained records of transactions in their own archives. After the RPI was created, notaries continued to have a monopoly; a lawyer who is not a notary cannot lodge instruments with the RPI. The RPI catered mainly for wealthier Peruvians although it established a sub-registry (*Registro Especial para Pueblos Jóvenes*) in 1987 to register titles given by the Provincial Municipality of Lima to residents in some informal settlements. This expansion of the RPI did not significantly improve formalization of informal property.

The *Registro Predial* (RP), a separate registration system, began functioning in 1990. It has its origins in an extensive research undertaking of the *Instituto Libertad y Democracia* (ILD), a Peruvian non-governmental organization. Over a five year period, (1984-1988), the ILD documented the legal and bureaucratic obstacles which people faced when attempting to formalize their properties and drafted legislative reforms to over 175 laws and 2,000 regulations. These reforms were embodied in two laws (Legislative Decrees 495 and 496), passed by Congress in 1988, which created the RP as a government agency mandated to registering properties in Lima's informal urban settlements, and established its powers and structure. In 1991, further legislation (Legislative Decree 667) was enacted enabling the RP to register informal rural property.

The RPI system serves the entire country through approximately 40 registry offices. The RP system, which is designed to operate in a decentralized mode, currently exists only in the Department of Lima. (The Department of Lima comprises 10 provinces, one of which is the Provincial Municipality of Lima; and 170 districts, one of which is the city or District Municipality of Lima.) For various budgetary and administrative reasons (resulting largely from the economic, political, and social flux outlined above), the RP registry system has not been extended outside the Department of Lima. This is not a major constraint in providing services since the Department of Lima is home to about one-third of all Peruvians:; the 1993 national census recorded the Department's population to be 7,122,000.

The civil code, which applies to both registry systems, does not make registration compulsory. It does provide incentives to register by giving a registered right priority over an unregistered one. Furthermore, a registered transaction conducted in good faith carries something of a guarantee. Titles registered in either system are indefeasible except if overruled by court order (although minor errors may be corrected by registrars). To overrule a registered title, a court must find evidence of bad faith. The challenger has the burden of showing that the registered owner did not enter the transaction in good faith.

The RPI has jurisdiction over all traditionally formal urban areas whereas the RP is responsible for registering transactions in land in informal urban settlements. In some cases, people in informal settlements managed to overcome the obstacles and registered their property rights in the RPI. To avoid confusion regarding the system in which a parcel is to be registered, the RP is required to notify the RPI that it has become the competent agency for a defined area. In response, the RPI is required to close the entries to records of any parcels in that area. A spatial division between the two registry systems is possible in urban areas since urban parcels can exist only in urban settlements (i.e., informal property owners must form a recognizable community) and the boundaries of those settlements can be reasonably clearly identified.

Rural areas posed a problem since informal parcels are often interspersed among formal parcels. As such, it was impossible to devise a spatial division between the two systems for rural land. Consequently, Law 667 gave jurisdiction to the RP for all rural properties, whether they be of formal or informal origin. (Many of the rural parcels registered in the RPI have not yet been transferred to the RP because of resource limitations.) This decision had a far-reaching effect, opening up battle-lines between those affiliated with the RPI and those who supported the RP. In order to register a transaction in the RPI, the civil code requires that a public instrument (*escritura pública*) be lodged. Notaries have a legal monopoly in preparing such instruments; there are only about 70 notaries in the entire Department of Lima. The RP legislation deregulated this requirement, allowing lawyers who were not notaries to prepare registration documents. There was not much opposition to the RP system when it was perceived to serve only the poor (who were not clients of notaries anyway); the situation changed once all rural parcels fell under the jurisdiction of the RP.

The formal relationship between the RPI and RP has not yet been finalized. At the beginning of 1995, legislation (Law 1666) was passed creating a National System of Public Registries under a Superintendency, an autonomous body under the Council of

Ministers. This National System brings together registries such as those for mining, ships, and aircraft as well as the RPI and the RP. Law 1666 required the RPI and RP to merge after a period of four years. Since the law gave no guidelines for that merger, lines were drawn between supporters of the two systems. However, in January 1996, Congress passed new legislation which delegated authority for formalization to the Executive. This will enable the RP to be removed from the Superintendency and placed under the Ministry of the President.

The RP began registering parcels in 1990; by the end of 1995, that registry had registered ownership over 275,000 parcels. (The number of registered parcels in the RPI cannot be determined easily because that registry system is not parcel-based.) Registration of ownership in the RP came in three main waves. In the first six months of 1990, the USAID partially funded a project which resulted in about 42,000 parcels being processed. Progress was intermittent until late 1992 when the World Bank funded a second project in which over 71,000 parcels were formalized in the space of a year. The third wave, taking place during 1995, resulted in the registration of another 92,000 parcels in the RP. This last formalization effort was sponsored by a Peruvian commercial consumer credit company. The fact that the RP has allowed many to register ownership and mortgages quickly has sparked criticism that there has been a trade-off: faster registration has come at the cost of reduced security.

The rest of this chapter investigates the validity of this criticism by analyzing two principal methods of creating formal property (i.e., when a person receives an original title by virtue of an original grant by the sovereign state, or through prescription), and the principal method for maintaining formal property (i.e., when a person receives a derivative title when the property is transferred by the owner). In each case, operations of the two registration systems are compared. The security provided by the two systems is then evaluated.

Registration of an Original Title: the Case of an Original State Grant

The first case involves registration of title of an original grant by the sovereign state. Its special significance arises in part because it is here that the first formal chain of title begins as ownership is transferred from the state to a person; it is also important because the parcel associated with those rights is defined for the first time.

Urban Land: Registration of an Original State Grant

Provincial municipalities have jurisdiction over unalienated land within their boundaries. In the case of urban land, Law 13517 (1961) established the following steps to formalize properties:

(1) Recognition by the provincial municipality that the informal community exists.

(2) Approval by the provincial municipality of the site used by the informal community, e.g., the settlement may not be on an archeological site, on a river bank prone to flooding, etc.

(3) Drafting and approval by the municipality of a plan showing the boundary of the informal community.

(4) Delivery of a certificate of possession to community residents. These certificates are based on compilation and approval of a census of possessors of land in the settlement.

(5) Drafting and approval by the municipality of a subdivision plan showing individual parcels within the community.

(6) Delivery of titles by the municipality to replace the certificates of possession.

This law established a fundamental principle that title would be given to the person who possessed land in a recognized community on state land.

Figure 4 represents the process for the RPI. The registry system becomes involved in the process only after the provincial municipality has issued title. At this point, the beneficiary ("A" in the example) may take the title to the RPI for registration. The civil code establishes that a "public instrument" (*instrumento público*) is required for registration

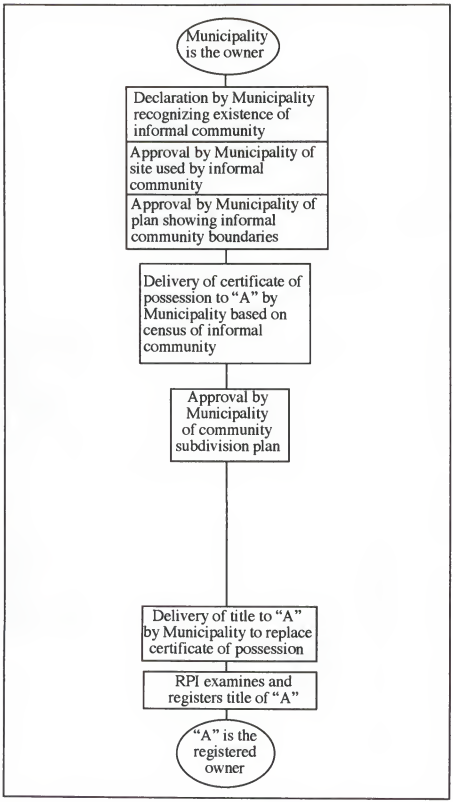


Figure 4: Registration in the RPI of an original grant in an urban area

of a transaction in the RPI. Since an original title granted by the state is regarded as a public instrument, the services of a notary are not mandated.

The RP legislation broadened the proofs of ownership to include a declaration by community leaders or a declaration by six neighbors; and two other specified documents (the most commonly used being receipts for payment of municipal taxes and water services). However, in practice the RP worked with the municipality, ensuring that only titles issued by the municipality would be registered. The additional documents identified by the RP legislation (declarations by community and tax and water payment receipts) were used to broaden acceptable proofs of possession. As Figure 5 illustrates, the RP system enables the occupant to become the registered possessor of a parcel of land before he or she receives a title from the municipality. When the occupant receives the title of an original state grant, the registration changes from possession to ownership provided that the title passes the examination of the RP.

The RP legislation introduced a number of other security-related principles that are not reflected in Figure 5. One principle is that parcels with valid security concerns should not halt the registration of parcels without such problems. For example, on occasion an informal community straddles the boundary between vacant state land and adjacent privately owned land, i.e., portion of the informal settlement overlaps land registered in the name of someone else. Under the RPI system, registration of any parcel in the informal community cannot begin until the municipality has expropriated the privately owned land, invariably a lengthy process. In contrast, the RP system distinguishes between the two portions of the community. The portion occupying privately-owned land must still be expropriated; however, those who possess vacant state land can proceed with titling and registration without delay.

Another innovation introduced by the RP system is the requirement of reasonable accuracy in identification. To ensure integrity the registration system must check the identity of the person (or persons) participating in transactions, for example, by comparing

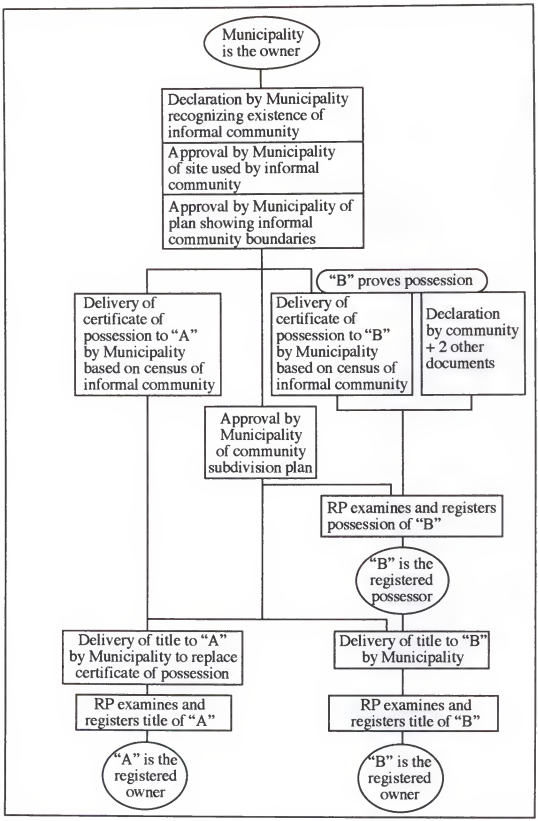


Figure 5: Registration in the RP of an original grant in an urban area

the name on the title with that shown on the person's identity card. However, mismatches can occur for many reasons, e.g., a woman's identity card may contain two "second names" (her family's second name plus her husband's second name) whereas the title may show only one second name for her. Even though it may be quite clear that the title and identity card refer to the same woman, nothing can be done under the RPI system; the couple must obtain a new title from the municipality showing the names exactly as they appear on the identity cards. In contrast, the RP issued directives establishing the acceptance of variations when there is no doubt regarding a person's identity.

Yet another principle of the RP legislation is to allow all the possessors in a community to become registered owners at the same time. Under the RPI system, each property owner had to make an individual application for his or her parcel to be formally recognized in that registry. The RP system legally recognizes each parcel once the subdivision plan is approved; this is made possible by giving each parcel a unique parcel identifying number. Mass registration efforts are further facilitated by introducing simple standard registration forms (where information common to the whole community can be easily filled in) and using a simple computer system to manage the large amounts of information collected.

Rural Land: Registration of an Original State Grant

In the case of rural land, registration of an original state grant is similar but has fewer requirements. Agrarian reform legislation established the principle that land belongs to the person who works it, i.e., a person is required to show only that he or she has been using the land. This is accomplished by proving possession for two years (i.e., there must be some degree of permanence to the possession such as growing crops for two seasons).

As with urban land, the RPI enters the picture once one of several agencies in the Ministry of Agriculture has delivered title to the beneficiary. The RP legislation broadened the proofs of ownership to include a declaration by neighbors or some other accepted group

(such as the local farmers' irrigation association); and two other specified documents (the most commonly used being property tax receipts from the district municipality and receipts for loans from state agencies for fertilizer, seeds, etc.) Again, in practice, the RP worked with the state titling agencies to register only titles those agencies had issued. Since it usually took many years before a title was issued to the possessor of the land, the RP was also designed to provide for registration of possession.

Registration of an Original Title: the Case of Prescription

The second case occurs when a person acquires property rights through prescription. For example, if the original owner abandons the parcel, someone else may be able to obtain ownership rights once he or she has possessed the parcel for a stipulated period. The title obtained by the new owner is an original one, the starting point for a subsequent chain of title; it is not a derivative of the former legal owner's title.

Urban Land: Registration of a Title acquired through Prescription

In urban cases, the RPI and RP follow the same procedures. Title must be obtained through a judicial mechanism. The civil code established two time periods for prescription: 5 years if a person believed he or she took ownership in good faith from someone else but lacked an appropriate formal contract for the transfer; and 10 years if the land has been invaded, e.g., the legal owner may be unknown. A possessor must obtain a declaratory judgment from the courts. This requires proving occupation for the required time period. (The occupant making the application does not necessarily have to possess the land for the stated time. That is, the current occupant can claim that his or her possession, together with that of any previous occupants, exceeds the minimum time specified.) The declaratory document issued by the judge serves as the person's title to the land. This title can then be registered.

Rural Land: Registration of a Title acquired through Prescription

For rural cases, the RPI follows a process similar to the urban case described above (and shown in the left hand portion of Figure 6). Agrarian reform legislation allows a person to acquire privately-owned rural land through prescription if that person can demonstrate possession of the parcel for at least 5 years. The possessor seeks a declaratory judgment from the courts; this judgment represents the new owner's title which can be registered in the RPI.

The RP legislation introduced a modification in cases of uncontested prescriptive claims to rural parcels (e.g., the registered owner cannot be located). That legislation provided an administrative mechanism for acquiring title. This is illustrated on the right hand portion of Figure 6.

A person can prove possession using the same types of documents used to establish possession in the case of first registration in rural areas (i.e., a declaration by neighbors or some other accepted group plus two other specified documents). These documents form the root of title; if legally verified, they allow the person to be registered in the RP as the possessor of the parcel for a thirty day period. Notice of the claim is published 3 times in the government paper and the most widely circulated local commercial newspaper. Notice is also posted on the land. If no competing claim to the land emerges during the 30 days, the RP automatically changes the registration to one of ownership. No agency issues a title—the documents used to establish possession become the legal title. The RP produces a certificate of registration. (If a conflicting claim comes to light, then the RP records the facts until the ownership dispute is resolved by the courts.)

Registration of a Derivative Title: the Case of a Transfer by Sale

Each registration system treats urban and rural parcels alike. Figure 7 provides a comparison of the processes.

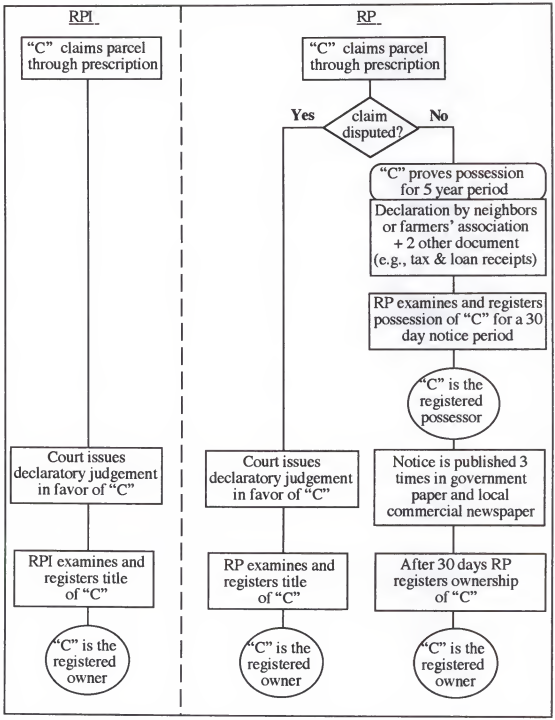


Figure 6: Registration of a title acquired by prescription in a rural area

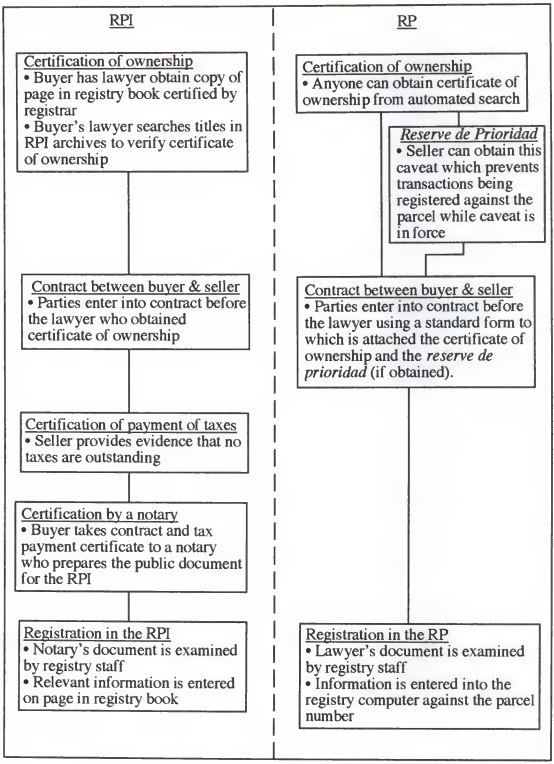


Figure 7: Registration of a derivative title in the RPI and RP

The RPI

Looking first at the situation of the RPI, the state stands behind titles registered in the "public registry" (*registro público*) in the sense that a judicial decision is required to overrule them. Declaring a registration invalid generally requires evidence that the transaction was not conducted in good faith. Conversely, to demonstrate that a registered transaction is being conducted in good faith, a search must be made of all documents in the public registry; this includes the abstract of the transaction (*partido registrado*) shown in registry books (called *tomas*) and the archived titles (*títulos archivos*). A prospective buyer wishing to purchase property registered in the RPI starts by obtaining proof that the seller is indeed the registered owner. The chain of title must be searched for 10 years which is the period for prescription in urban areas. The buyer instructs a lawyer to obtain a certified copy (i.e., a photocopy signed by the registrar) of the relevant page of the register book. Typically, the RPI charges about $20 and takes 3 months to deliver the certificate to the lawyer.

If the buyer's lawyer finds that the chain of archived titles agrees with the RPI certificate of ownership, the lawyer draws up the sales contract for the parties. This contract, along with certification that taxes have been paid, is taken to a notary who prepares the *escritura pública*, the public instrument required by law for registration of the transaction in the RPI. The *escritura pública* is presented to the RPI where the document is examined by the registrar's technical assistants. After the examination, the registrar prepares an abstract of the title in a register book. The examination and registration process takes about 6 months.

The RP

In the case of the RP, a certificate of ownership can be obtained within a day through a search of the computerized registry system. The search, which costs about $3,

can be carried out using keys of the parcel identifier, owner's name, or street address. Only one search is required, i.e., the computerized register; a search of the titles that lie behind the register is not needed. A registered owner can request a caveat called *reserve de prioridad* from the RP. Once the *reserve de prioridad* is issued, no transactions can be registered against the parcel until it expires or until the buyer brings it along with the sales contract to the RP. (During the period for which the *reserve de prioridad* is in force, any transactions submitted to the RP for registration will be recorded but not registered. Depending on the outcome of the *reserve de prioridad*, these transactions are either ignored—in the case of a competing sales contract—or registered in the order in which they were received at the registry.)

The buyer and seller enter into a sales contract before a lawyer using standard forms obtained from the RP. Information about the parcel and seller is taken directly from the certificate of ownership obtained from the RP and is entered on the one-page transfer form. Additional conditions may be described on an attached page.

The buyer presents the transfer form and certificate of ownership (together with the *reserve de prioridad* if one was issued) to the RP. The application for registration is entered into the computerized registry system and a receipt is printed for the buyer. The law specifies that within 7 days of receipt the registrar must either register the transaction or state all the reasons why registration cannot occur. Two types of problems may arise. On the one hand, problems that can be remedied (e.g., not all co-owners signed the document) are identified so that the buyer can submit amending documentation. On the other hand, if the problem cannot be remedied (e.g., a person entering into a contract is under age), it will be documented for the buyer and no future action will be taken by the RP. If the RP staff find nothing irregular with the application for registration, the registrar enters information from the transfer form into the computerized registry system (using a data entry screen which replicates the paper form). An updated certificate of ownership is printed for the buyer.

Registration of Mortgages

Each registry system treats the registration of mortgages in much the same way in which it registers transfers of ownership. Thus the RPI requires mortgage documentation to be prepared by a notary while the RP allows this task to be undertaken by conventional lawyers.

The two registry systems further differ regarding mechanisms for foreclosing on a mortgage. The RPI relies on judicial procedures. To reduce transaction costs incurred by often lengthy delay in the judicial system, the RP introduced administrative means for addressing the problem.

Security and the Creation of Formal Rights

To what extent do the differing requirements between the two registry systems have an effect on security. This section analyzes two aspects: the issue of registration of possession and titles not issued by the state; and the use of non-judicial mechanisms for uncontested prescriptive claims to rural parcels.

Registration of Possession

A charge may be levied against the RP that security of ownership is diminished because it allows possession to be registered. Security may be further diminished because documents other than those furnished by the municipality may be used to register possession and ownership. How valid are these claims?

Certificates of possession granted by the municipality are based on the compilation and approval of a census of possessors of the land. Because of practical difficulties of determining who possesses what parcel in informal settlements, the municipality has long used declarations of informal community leaders and the community's own "certificates of enrollment" (*constancia de empadronamiento*) for the census. Indeed, the reason for introducing the additional proofs of possession is to ensure that current possessors are

properly documented. Until recently, it took many years for an informal community to work through the six steps to formalize property, sometimes as long as 20 years (de Soto 1989). During this period, properties were transferred between informal residents with the effect that a person in possession of a parcel when the title is issued (step 6) may not be the person whose name appears on the certificate of possession (step 4). The RP thus eliminates obstacles to registration caused by working with out-of-date information.

Registration of possession must be viewed not as a weakening of ownership claims but rather as the ripening of ownership since title must be given to the person who possess the parcel. The rationale behind introducing registration of possession in the RP was to provide residents with access to credit while they were waiting to receive title. Under the civil code, the owner of a parcel is usually regarded as the owner of any improvements to the land. When a squatter built a house on vacant state land, that house legally belonged to the municipality. The RP legislation altered this situation so that a person with registered possession of a parcel is now also the owner of any improvements. This allows a registered possessor to obtain credit and to have the mortgage registered in the RP. (The RP legislation provides that rights of possession of the parcel and ownership of improvements cannot be split. If a lender forecloses, the lender acquires both rights of possession of the parcel and ownership of the house.)

The rationale behind broadening the proofs of ownership was to overcome the lengthy delays which prevented people from being legally recognized as the owners of parcels they possessed. In practice the RP registered only titles issued by official titling agencies since, as described below, the ILD and RP found ways to help the titling agencies overcome bottlenecks in the titling process.

Introducing additional proofs of possession, ensuring that parcels with valid security concerns do not halt registration of neighboring parcels without such problems, and accepting variations in the way a person's name appears on different documents helped speed registration. By themselves, however, they do not constitute the entire difference

between the two registry systems. Indeed, to a large extent, the success of the RP regarding first registration lies with how things were done rather than what was done. First, steps were taken to reduce security risks arising from claims to land within the informal communities. This was achieved by holding community wide campaigns to collect information on ownership and boundary claims. Consequently, the claim of every person in the community was scrutinized by everyone else. Only undisputed claims could move forward to registration.

Second, steps were taken to minimize security risks in legal documentation from the start. As alluded to above, people granted titles by the municipality could not get them registered in the RPI if the owner's name was incorrectly spelt on the title, the wife's name was omitted, and so on. In some cases, the RPI could not register titles because there were discrepancies between the community boundary plan and the subdivision plan. Since maps frequently took a decade or more to prepare (during which time communities often expanded as new settlers arrived), community boundaries were often inconsistently shown on maps prepared at different times. In other cases, terminology used in titles and plans was not consistent. Furthermore, at times the municipality did not have the expertise to read and prepare plans and even lacked vehicles to visit the settlements to confirm the information, a legal requirement.

To address this problem, the ILD provided technical assistance to the titling agencies and RP through a series of cooperative agreements. Because the issue of quality control was addressed at an early stage, the RP received titles without apparent errors or inconsistencies. In turn, these high quality titles were able to be registered without having to follow extensive security precautions. This cooperation did not come easily at first due to a variety of factors including turf-battles and limited resources. However, the municipality and other agencies soon saw the political value of handing out titles that could be registered without a problem and worked closely with the ILD and RP.

Indeed, the speed with which the municipality and agricultural agencies were able to issue good titles once the ILD's professional advisors had resolved problems with documentation rendered the option of registration of possession somewhat sterile. As described above, registration of possession was intended to give a person an opportunity to gain access to credit before title was issued. The proactive efforts by the ILD on behalf of the RP meant that titles could be prepared quickly with little effort on the part of the titling agency. Consequently, the number of parcels for which possession (as opposed to ownership) has been registered is negligible.

The Use of Non-Judicial Mechanisms

The RP has been challenged on two grounds that undisputed prescriptive claims for alienated rural land reduce security. First, is it appropriate to replace a judicial mechanism with an administrative one? From the RP's perspective, the question may be re-phrased as: Why should a case go to court when there is no dispute? The RP's administrative mechanism ensures security by requiring the claimant to demonstrate possession for 5 years by submitting a declaration from neighbors or the local farmers' association, plus documents from the state such as tax and loan receipts. This documentation must be verified by a lawyer before submission to the RP.

Second, is 30 days between registration of possession and registration of ownership an appropriate period of time? This raises the issue of what is an appropriate notice period: how does one strike a balance in being fair to those unknown people who may have an interest in the land (and therefore wish for a lengthy notice period) and those who have already made their case openly for at least five years (and therefore wish to conclude the matter as soon as possible). Neither of these issues can be resolved on purely technical grounds.

Security and the Maintenance of Formal Rights

To what extent do the simpler administrative requirements of the RP affect security? First, some of the changes are directed towards aspects of the registration process that have no bearing on security. For example, the RP reduces transaction costs of registration by eliminating a requirement (i.e., certification of payment of taxes) that does not increase security. While arguments can be made regarding the merits of having such a requirement to ensure that money continues to flow into the public coffers, it does act as a disincentive to register when the benefits of formalization have not been fully realized. As benefits become more apparent (e.g., greater access to credit), people may be more inclined to accept the burden of proof of payment of taxes.

Second, the RP dispenses with the requirement for the service of notaries to produce an *escritura pública*. Does the notary increase the security already provided by the contract prepared by the lawyer? If so, is the increase in security greater than the fee paid for this service? (The notary's fee is usually a percentage of the property value with a minimum charge of about $150.) Because there is no objective standard for security, such questions cannot be answered objectively. Peruvian law holds that the person shown in either system to be the owner must be regarded as such unless a challenger can convince the court that the transaction was carried out in bad faith. This by itself may provide sufficient security for a mortgagee to lend money based on property registered in the RP. The contribution by the notary thus may be discounted by the purchaser or mortgagee. A countervailing argument may be that the services of the notary are needed to ensure that bad faith transactions are kept from the registry in the first place. That is, the combined efforts of the lawyer in preparing the contract and the registrar in examining the new title are not sufficient to combat fraud or detect errors. In part, these questions can be addressed in technical terms and such issues are explored in the following point. But in the main, the subjective nature of the issue suggests that political considerations outweigh technical ones.

Third, the RPI requires two searches (the abstract in the register book and the archived titles) whereas the RP requires only one (the computerized register). Does the RP provide less security in this regard? There are a number of problems associated with searching the register in the RPI. Parcels do not have unique numbers; instead transactions are abstracted into register books as they occur. Searching the chain of title requires investigating a number of books. There is only one copy of each book: if someone else is using the required book the search comes to a halt. Book pages are worn and the corners showing page numbers are often torn, making it difficult to find the required pages. At times pages are missing. Because information is not parcel based, transactions are difficult to find. Problems are also experienced when searching the RPI's archived titles. At times, titles cannot be found in the registry because they are misfiled or lost. When this occurs, there is a legal requirement to obtain copies of the missing title from other sources, i.e., the notaries who prepared them.

The RPI takes about 6 months to register a transaction. It is thus possible for an owner to enter into a contract with one person who submits the purchase contract to the RPI staff for registration, and then a few months later agree to sell the parcel to a second person. The second buyer may conduct a search which shows everything to be in order since there is not yet a record of the contract with the first buyer. By the time the second buyer is ready to register the transaction, the first buyer may already have registered his or her transaction. Since mortgages are registered in a similar fashion, a person upon taking legally registered ownership may find that the parcel is burdened with a mortgage that had not been registered when the title search was conducted.

In contrast, the RP increases security by reducing asymmetry of information between parties. Since the registry is parcel-based and each parcel has a unique parcel identifying number, information can be readily indexed. And since the registry is computerized, access to information is further improved. A certificate of ownership can be obtained within a day through a search of the computerized registry system along with a

reserve de prioridad which prevents competing transactions from being registered. The sales contracts presented to the RP are on simple standard forms which replicate the computer screen. Unlike the *escritura pública*, which are often multi-page documents where information such as the fact that a person is married may appear anywhere, the standardized forms of the RP force lawyers to record information in specific places. The chance of error is thus considerably reduced.

Evaluation by Land and Credit Markets

Security cannot be defined and measured objectively and so market responses become an important indicator of how people with different objectives (e.g., buyers, sellers, and lenders) view the cost effectiveness of strategies and techniques used by registration systems to manage risk. The track record of the RP is not long, having operated for only 6 years, nor has it, with some 275,000 parcels, registered an extensive number of property rights. (It should be noted that if one assumes that an average family has 5 members, then the RP has touched the property rights of some 1.4 million people or almost 20 percent of Lima Department's population.) Nonetheless, the operations of the RP have brought into focus several issues relating to the sustainability of a registration system. Data in the tables below are from the Registro Predial (Aliaga, L. 1996, personal communication).

One measure is the number of owners who register their property rights. Table 5 shows the number of parcels registered in the RP during the past six years. Some residents of informal urban settlements and members of former agricultural cooperatives managed, despite the difficulties, to have their property rights in land registered in the RPI. Several of these owners chose to transfer their registrations from the RPI to the RP because they perceived that system to provide greater benefits (i.e., increased access to credit because loans can be secured more easily by mortgages).

The remainder of this section addresses the responses by the land and credit markets to the reforms of the RP.

Table 5: Number of parcels registered in the RP
(Aliaga, L. 1996, personal communication)

Year-end	Urban	Rural	Total
1990	57,855	0	57,855
1991	72,697	300	72,997
1992	84,350	400	84,750
1993	147,171	9,400	156,571
1994	174,472	9,800	184,272
1995	266,370	10,300	276,670

Land Market

Table 6 shows the number of transfers registered in the RP for urban parcels per year while Table 7 gives statistics for rural parcels.

Table 6: Number of urban transfers registered in the RP
(Aliaga, L. 1996, personal communication)

Year-end	Number of urban parcels registered in the RP	Number of urban transfers registered in the RP
1990	57,855	5
1991	72,697	302
1992	84,350	1,116
1993	147,171	4,406
1994	174,472	1,832
1995	266,370	5,600

Table 7: Number of rural transfers registered in the RP
(Aliaga, L. 1996, personal communication)

Year-end	Number of rural parcels registered in the RP	Number of rural transfers registered in the RP
1990	0	0
1991	300	0
1992	400	1
1993	9,400	1,791
1994	9,800	262
1995	10,300	1,000

For 1993, the indicator of registered transfers is clouded in part by certain formalization procedures. To some extent, the peak in 1993 represents the final step of formalizing an individual's property rights (i.e., transfers from the state to individuals) rather than property transfers between individuals. For example, in the State housing project of Pachacamac in Villa El Salvador, the procedure was to (i) register all the land within the housing project boundaries in the name of the state agency; (ii) legally subdivide the land and register all the newly created subdivision parcels in the name of the state agency; and (iii) register the individual parcels in the name of the people holding them once the owners had paid the registration fee. Registrations conducted as step (iii) were classified as transfers rather than cases of "first registration". A similar procedure was used with certain cooperatives in rural areas.

Nonetheless, much of the peak in 1993 represents the fact that people felt that the new efficient formal land market, underpinned by the RP, provided something that the informal land market did not. Although people had the opportunity to sell their properties in the informal land market, many chose to wait until their property rights were formalized. For a large number, this came with the 1993 formalization project. Some of these newly

registered owners sold their properties immediately they were formalized. Data for 1995 indicate continued interest in registering land transfers.

Credit Market

Table 8 gives the number of mortgages secured against urban parcels while Table 9 shows the number of registered mortgages for rural parcels.

Table 8: Number of urban mortgages registered in the RP
(Aliaga, L. 1996, personal communication)

Year-end	Number of urban parcels registered in the RP	Number of urban mortgages registered in the RP
1990	57,855	10
1991	72,697	116
1992	84,350	38
1993	147,171	416
1994	174,472	437
1995	266,370	1,900

Table 9: Number of rural mortgages registered in the RP
(Aliaga, L. 1996, personal communication)

Year-end	Number of rural parcels registered in the RP	Number of rural mortgages registered in the RP
1990	0	0
1991	300	0
1992	400	0
1993	9,400	1
1994	9,800	105
1995	10,300	600

Credit has been used for a wide variety of purposes. Several mortgagors used the credit to expand their informal micro-enterprises (e.g., workshops for making furniture). A number of these people subsequently formalized their businesses by registering them in the *Registro Unificado*, a simplified business registry also designed by the ILD. In many cases, credit has been used to improve or repair housing. A wide variety of lenders (including private individuals and automobile dealers) have used the RP but four main types of lenders can be identified: state agencies, commercial banks, NGOs, and consumer credit companies.

In the first years, lending was dominated by state agencies which implemented programs to repair damages resulting from the struggle between the state and *Sendero Luminoso*. As late as 1993, the municipality of Villa El Salvador, the Banco de la Vivienda del Peru, and ENACE (a state housing agency) accounted for 93 percent of the 416 mortgages on urban parcels.

This research shows that lending by commercial banks started slowly. One bank provided credit as early as 1990; by 1995 three major banks were using the RP to secure loans. In some cases, the banks function in association with local NGOs having their own credit programs. Typically, the banks take responsibility for financial aspects (e.g., administering credit lines and payment schedules) while the NGOs screen potential borrowers by determining their credit worthiness and reviewing the feasibility of their proposed projects. In other cases, NGOs administer their own lines of credit. Banks and NGOs in general indicate that their original plans to provide credit to the poor did not call for them to use the RP but it became their system of choice once they had discovered its low transaction costs and high level of security.

The aggressive use of a land registration system by a consumer credit company cannot be predicted when reviewing current literature. Peru illustrates the unexpected. One of Peru's largest consumer credit companies formed a subsidiary in 1994 to take advantage of the RP's low transaction costs. It registered 78 mortgages in 1994 and 1,800 in 1995.

The company has a long history of providing credit to people in the informal sector (and those in the formal sector as well) who wish to purchase household goods from its stores. It now provides financing services to customers who buy building materials from its new subsidiary. As described earlier, homes in informal settlements typically start as flimsy dwellings made of straw matting. In the past, credit was scarce and residents waited years to save the cash needed to buy bricks, cements, reinforced steel, and other supplies needed to protect the families against the weather and criminals. With access to credit, owners can start improving their homes today. In addition to selling building supplies, the consumer credit company provides clients with technical assistance in estimating the quantity of materials needed and preparing a budget. Other services include a series of technical bulletins showing how to level floors, mix cement, and lay bricks. Its engineers visit the clients when materials are delivered to provide further technical assistance.

Recognizing the potential business arising through widespread formal ownership, the consumer credit company undertook to finance the creation of more formalized property through a cooperative agreement with the RP. Through this agreement, an additional 92,000 parcels were registered in the RP during 1995. For its part, the company funded salaries of a dozen registrars on a short-term contract and provided the registry with computers and a fax machine. To speed up the delivery of titles, the company provides technical assistance to the provincial municipality, the title-granting agency, through another cooperative agreement. Providing credit through a company store is not the ultimate goal. The company intends to package its loans and resell them on the secondary market to raise capital for additional loans. For such a procedure to be attractive to investors, the loans must be provided in large numbers and must be appropriately collateralized. Consequently, there is an interest in increasing the number of borrowers whose loans are secured by mortgages registered in the RP.

The RP offers the consumer credit company a number of advantages. The company, because of its history of lending to the informal sector, had already developed

effective procedures for screening potential borrowers. The RP enables the company to lower the costs of this screening in several ways. First, credit-screening is simpler when the borrower has registered property rights. When no collateral is provided, the company requires a borrower to have a co-signer guarantee the payment; the credit-worthiness of both the borrower and co-signer must be assessed. If collateral in the form of property rights in land exist, the company needs to investigate the credit-worthiness of only one person. Second, the RP enables the collateral to be screened quickly. In fact, the reason for acquiring the fax machine for the RP was so that the company's loan administrators can determine, in the presence of the prospective borrower, whether the parcel to be pledged as collateral is registered in the RP and whether it is free from encumbrances. This significantly speeds the loan approval process. In all, the company estimates that the costs of doing business in the RP is one-tenth that of using the RPI.

The RP offers the company a further advantage by reducing its costs of enforcement. Foreclosure on a mortgage is an administrative procedure rather than the judicial procedure used by the RPI. It thus avoids Peru's notoriously inefficient judicial system. Perhaps the main advantage of this is that it reduces the company's costs of providing incentives to ensure repayment of the loan. Knowledge that effective action can be taken speedily in cases of default encourages borrowers to make regular payments.

Providing Sustainable Secured Credit in Low Income Countries

The case of Peru suggests that a registration system can operate effectively for low income citizens and still provide creditors with adequate security. Furthermore, it suggests that if a system has sufficiently low transaction costs, a commercial enterprise can identify and exploit business opportunities in providing credit to the poor. Credit in low income countries is often given in small amounts (e.g., under $1,000) and for a short period (e.g., less than a year) since a person's income (i.e., ability to repay the loan) is as much a factor as any collateral offered. If the registration system is inefficient, the costs of registering a

mortgage will be a high percentage of the value of the loan. Furthermore, delays in the registry office may result in the loan being repaid before the mortgage has been registered. As a system grows more efficient, it becomes cost effective to register smaller mortgages.

The case study suggests two reasons why some "critical mass" of parcels and ownership rights must be formalized in order for a company to seize business opportunities. First, the low value of the loans implies that the profit margin per loan is correspondingly small. If a commercial lender is to operate profitably, it has to provide loans in large numbers. Second, when a lender decides to provide credit secured by registered mortgages, it has to change the way in which it does business. A lender will only do this if the gains exceed the costs associated with changing its procedures. This will occur when the number of formal owners (representing potential clients) rises above some threshold value. If the number of parcels formalized in a pilot project is too small, incentives for business will be lacking. The number of parcels, of course, will vary according to local circumstances.

The case of Peru further suggests that lenders (i.e., consumer credit companies) who have not traditionally been associated with registration systems may have an important role to play. In a sense, consumer credit companies bridge the formal and informal credit markets. Since many of their clients are in the informal sector, these companies have developed techniques and procedures for screening applicants who do not possess characteristics typically required by formal lending institutions. For example, those who work in the informal sector do not have regular documented incomes while those who live in informal settlements cannot produce formal street addresses showing where they live. Nevertheless, consumer credit companies have managed to overcome these screening and enforcement problems and provide credit for television sets and home furnishings, often with low default rates. (The consumer credit company in Peru reports a default rate of one percent).

Commercial banks, of course, have a role to play which may become increasingly important as incomes rise. However, banks are traditionally conservative when lending to new sectors of clients, frequently basing their hesitation (often justified) on the need to protect their depositors. In contrast, NGOs work with those in the informal sector and so tend to have good screening capabilities but often lack financial strengths. By definition, NGOs have their focus on wealth distribution rather than wealth creation. Their financial assets are not generated by profit but are derived instead from donations. Furthermore, the very nature of service provided by NGOs tends to result in many of them attracting staff who do not consider the "bottom line" to be very important. Of course, collaborations between banks and NGOs can serve to overcome their limitations.

The analysis further suggests that the conventional distinction between providing credit for production (a good thing) and consumption (a bad thing) is not always useful. When a loan is applied to production, it is with the expectation that repayment of the loan is possible because the projected return on the investment exceeds the costs of the loan. For example, a carpenter may obtain a loan to buy tools and wood with the expectation that future furniture sales will allow the carpenter to meet living expenses as well as to repay the loan. In contrast, credit for consumption does not generate such a return. However, obtaining credit for building materials may allow an owner to add value to the home which can be recovered at some future sale. Using the materials to build a more robust house will enable the owner to improve the family's quality of life by providing protection against the weather and thieves. Moreover, at times the home also serves as a place of work, either as a retail shop or as a workshop. In such cases, erecting a more robust building serves to protect investments in inventory and equipment. The provision of credit to improve homes can have a stimulating effect on the local economy by creating increased demands for locally supplied building materials. This stands in contrast to many consumption goods which are imported.

Many titling and registration projects around the world have been justifiably criticized as failures because newly registered owners have not benefited greatly, or even at all, from improved access to credit from the private sector. The Peruvian case study provides some encouragement that credit may be provided when a land registration system works to the advantage of lenders. Titling and registration projects have also been faulted on the grounds that people frequently fail to register subsequent transactions in the newly created registries. To what extent can incentives, such as increased access to credit, ensure that registration systems are updated so that the information they contain is useful to decision-makers in the public and private sectors? The following chapter addresses the relationship between security, credit, and registration systems.

CHAPTER 6
SECURITY, CREDIT, AND REGISTRATION SYSTEMS

In practice, security can never be absolute. First, security can never be measured directly because it cannot be defined objectively. To a large extent, security is what people perceive it to be. Security may be assessed using various indicators. Some indicators may be based on legal statistics such as the extent of litigation concerning property-related doubt and disputes. These indicators, however, will under-report the number of disputes if they do not include the number of conflicts resolved by extra-legal means. Other perhaps more useful indicators may be based on the market, for example, society's recognition of the outcome as expressed in property values, lenders' acceptance of collateral (and the terms on which this is done), and so on.

Second, substantial security may be obtained by reducing ambiguity using extreme measures, for example, physically defining all boundaries with indestructible material. However, the law of diminishing returns indicates that at some stage the gains in additional security will be too small to warrant the cost of additional action. Security is an economic good and it is likely that demand for security decreases as income declines. In such cases, a person may settle for a different level of security by replacing existing security measures with more cost-effective ones. Indeed, this happens when a transfer from a registered owner to a new purchaser is not entered in the registry and the property rights become informal. The new owner then relies on informal security measures (e.g., the support of the community) to protect the rights.

This chapter analyzes the concept of security as a product. It begins by considering supply and demand issues relating to security and then evaluates the extent to which the product of security can be differentiated. It provides an assessment of the mechanics for

increasing security and concludes with the design of a conceptual model for increasing security through the use of credit as an incentive.

Demand for and Supply of Formal Security

As an economic good, security is affected by the demand for it, and the ability to supply it. This section analyses demand and supply by drawing on field research experience in Peru and Namibia.

Demand Side

Demands for security, even with an informal community, are not homogenous. Although these demands may form a continuum in practice, for convenience they can be categorized as "low-level" demands and "high-level" demands.

Low-level demands are driven by needs for assurance that residents will not be evicted, or at least will receive some form of compensation if eviction occurs. By meeting this basic need, residents of a community are provided with a longer-term time horizon which gives people an assurance that they can begin investing in immovable improvements, for example, improving their homes to protect against inclement weather or burglars. Increasing investment in homes tends to stimulate a demand that the children are capable of inheriting the family assets. As well, some residents may feel a responsibility to "keep the house in the family" for at least one generation so that those in the immediate family (e.g., older children and aging parents) who are unable to find alternative accommodation can remain in the family home.

High-level demands arise when asymmetry of information exists between parties in a transaction, and when there is uncertainty regarding enforcement. As the example of Peru shows, there can be a considerable demand for credit in informal settlements. However, lenders from outside the community (or even within the community if it is fast growing) suffer significant information problems when asked to provide credit secured

against property rights in land. Imperfect information and imperfect enforcement are also problems in emerging land markets, for example, when a resident and someone from outside the community attempt to transfer property rights.

Supply Side

The supply side of formal security may be limited in several ways. This research addresses two categories of limitations, those arising from ripening of title and lack of capacity.

It may not be possible to provide formal security to a person because the title of the person has not yet ripened. That is, the person has not possessed the land for a sufficient period of time and/or lacks all the documents necessary to establish full rights of ownership. There are good reasons for requiring a title to ripen before providing full legal security. On the one hand, formal security should be cautiously granted so that permanent rights are not given to temporary occupants who may soon vacate the parcel. Indeed, a problem experienced in Namibia is the extreme mobility of some residents in informal settlements. In pursuing work opportunities, a person may move from his or her family home in a rural area to an urban informal settlement and, after a short stay, may migrate again to a distant town. On the other hand, formal security should not be granted so quickly that the claims of others are prejudiced. A problem exists though since there is no simple technical determination of what constitutes a satisfactory time period. In Peru, the civil code defines two years as being appropriate for claiming state-held rural land while five years is needed when acquiring privately-owned rural land, and the period for acquiring privately held urban land is now 10 years after being reduced from 30 years. Indeed, jurisdictions that share similar histories and complexities may have vastly different time requirements. Drawing an example from traditional conveyancing, New Brunswick requires that title be searched back 60 years, while Ontario has a 40 year requirement and England stipulates a 15 year period.

Perhaps more common is an inability to provide formal security because of a lack of capacity. This may be apparent in a number of areas:

(1) Planning and development. When formalization projects concentrated on rural areas, much attention was given to the problem of consolidating fragmented farms before farmers could be titled and registered. In urban informal settlements, attention focuses on the need to realign and widen streets and to design and build utility services in designated corridors. Planners and engineers accustomed to planned developments typically demand large scale mapping of the settlements before they begin planning. And because jurisdictions are used to dealing with planned developments, they sometimes demand that parcels are fully serviced (e.g., water and sewer connections exist) before title can be given.

(2) Certification of parcels. Surveys of settlement boundaries and those of individual parcels must be performed before titles can be registered. A shortage of appropriately qualified surveyors and/or engineers may impede the preparation of required plans.

(3) Certification of ownership. Claims of people to individual parcels must be researched and validated. This process may be delayed because of a shortage of appropriately qualified members of the legal profession. Bottlenecks in issuing titles may result from limitations in titling agencies.

(4) Registration. Instruments identifying parcels and holders of rights in them must be registered. Problems may arise in this process because of shortages in registry offices.

Increasing the Supply of Formal Security

As noted earlier, security is not absolute. Suppose then that society settles, not for absolute security, but for some approximation to it. The cost of providing formal security is the cost of following a set of procedures for formalizing property. It may be argued that the economic advantages of formal ownership are so considerable that rapid and large-scale formalization makes sense—but these advantages must be weighed against exorbitant costs of formalization (due to following the set of procedures) when large numbers of parcels are involved. A number of options may be employed to increase the supply of formal security but all options still incur some costs.

In one scenario, consideration may be given to reducing standards of formalization procedures to make the process more affordable. As a theoretical example, picture that on a

sliding scale of 0 to 10 measuring increasing levels of security, 25 percent of the population enjoy a security level of 10 (representing the level of security accepted by formal society) and 75 percent have only informal security, say at level 3. The security standards that the top 25 percent meet are too costly to apply to the rest of the population. Is it feasible to move as many as possible of the 75% up to greater security, say to level 7, as long as this can be done at a reasonable cost? In other words, can a graduated system of titles be implemented whereby a property holder can move to a higher level of security when he or she is able to pay for the associated costs? If such a system is implemented, what effect will it have on a prospective purchaser or mortgagee? That is, will lower level titles be marketable? Reducing standards may take many forms, one of which is deregulation of work. For example, conveyancing and surveying roles may be opened to people who previously did not qualify to be members of restricted property professions. In addition, certain titling and registration activities performed by the public sector may be contracted out to the private sector. Standards defining time requirements may also be reduced, for example, the period required for possession may be shortened as may be the time specified to search back legal documents.

In a second scenario, consideration may be given to reducing inefficiencies in registration systems. Notwithstanding the theoretical example in the above paragraph, societies do not tend to rationally select a level of security and then design a system around it. Instead, systems have invariably evolved in a piece-meal fashion. Often rules and procedures are inappropriate, originating at times merely to serve the interests of protected minorities such as property professionals. Even if a registry system was conceived as a radical reform, after some years the original design may no longer reflect today's social realities. These inefficiencies mean that not all the costs associated with an existing system result in benefits. Different rules may provide the same security for less cost (or conversely, more security for the same cost). For example, some costs may be reduced by replacing judicial mechanisms with administrative ones. In other cases, costs may be

avoided by dispensing with unnecessary requirements. Spending less on process thus does not necessarily mean less fairness for the population at large. It perhaps does mean that those who benefited from the inefficiencies face reduced earnings per transaction in the new system.

In a third scenario, consideration may be given to supplementing local resources with foreign ones. For example, planning, surveying and mapping may be done by expatriates with or without local partners. However, where local professions exist, they tend to protest strongly about the use of foreign personnel, even if they possess qualifications virtually identical to those required in the project jurisdiction.

In practice, some combination of the three scenarios may be employed to increase capacity. Costs will remain despite attempts to reduce standards and inefficiencies and who bears the burden of the costs becomes an issue. Like most things that serve as infrastructure, the creation of formalized property and registry systems requires investments to be made today while benefits accrue over time. For this reason, it is often argued that the government should pay the costs and recover those expenses through taxation. While the state's role cannot be eliminated, the Peruvian case study shows that when benefits can accrue rapidly, the private sector may be prepared to invest in formalization efforts.

Differentiating the Product

If formal security is perceived as a product, to what extent can it be differentiated? This section considers variations in information and protection.

Differentiating the Information Component

Chapter 3 discussed how the scope of rights recognized may be limited, along with the information describing the parcel and associated rights. For example, consider an informal urban settlement which has been established without due consideration of flood

prevention measures, provision of open spaces and public facilities, and construction of necessary access roads and utility corridors. Planning an appropriate level of public services may necessitate some residents having to move from the site they currently occupy. Until it is practical to plan, survey, and convey title to individual parcels, a system may provide security for those with the type of low-level demands described at the beginning of this Chapter. For example, people may be granted limited rights, i.e., to occupy a site at least equivalent to the proposed minimum size parcel in the settlement area, to transmit those rights of occupation to their heirs, and perhaps, even to transfer those rights to others. In such a case, the boundary of the settlement area should be surveyed and registered but not those of individual parcels since they have not yet been defined. As such, a resident may not be able to use the property rights as collateral or to encumber the holding with certain forms of easements.

Providing security to meet high-level demands requires that individual parcels are defined. Rational mortgagees and purchasers will require some knowledge of the limits of the parcel in which they are interested in order to determine that it is not burdened with encroachments, etc. Even here, there may be some latitude for variations in the quality of information provided. This is nothing new: specifications for surveys in rural areas have often been more relaxed than those for urban parcels, largely because most rural land is not priced as high as most urban land. It may be possible to use economic values to further differentiate urban land, for example, one set of procedures may apply to commercial property rights while another may be used for residential property rights. Alternatively, security may be graduated according to who certifies property information: parcels and ownership certified by survey and legal professionals may warrant one level of formal title while those certified by survey and legal technicians may be assigned a lower level.

Differentiating the Protection Component

Security can also be differentiated according to what happens after title is registered. Two issues are considered here: guarantee and indemnity.

A guarantee essentially protects a purchaser (and hence that person's mortgagee) against losing registered property rights. Consider the case of a claim to rectify the register which shows, as registered owner of a parcel, a person who purchased property rights in the parcel in good faith and has no knowledge of the mistake or fraud upon which the claim for rectification is based, and who is in possession of the parcel. Where the register is not guaranteed, judgment may go against the registered owner who then loses the property. Where the contents of the register are guaranteed, the registered owner retains the land holding; no rectification can take place. Of course, variations are possible; under the English "title registry" system, the register cannot be rectified to affect the title of a bona fide purchaser in possession unless the immediate disposition to the person registered as owner was void (S.R. Simpson 1976, 179).

An indemnity provides compensation in cases of loss arising from registration. A number of variations exist. The state may indemnify an injured party for losses arising from negligence or error on the part of the registry or it may provide compensation irrespective of the cause of the loss. If the loss arises as a result of negligence of a property professional, the injured party may seek compensation from the professional, for example, from a liability fund established for those purposes. Under a title insurance scheme, an injured party is able to claim compensation from the title insurance company providing coverage.

Mechanics of Formal Security

Gradations in Formal Security

Security may be increased by moving from an informal property system to a formal one. As the preceding section illustrated, it is possible to further differentiate the product of formal security. This suggests that it is possible to offer a system of graduated titles, each offering a different level of security. Figure 8, for example, shows a situation where

ownership may be transformed from informal (I) to one of three grades of formal ownership (F1, F2, and F3), each grade having its own level of security. In such a scenario, ownership of type F1 may accommodate "low-level" needs while that of type F3 may meet requirements of "high-level" needs; type F2 may exist as a transition step. As the figure indicates, it may be possible to go from an entry level type with limitations on formal recognition of ownership (F1) to the highest level of formal ownership (F3) either directly or by way of conversion to some intermediate level (F2), depending on requirements and resources available at the time.

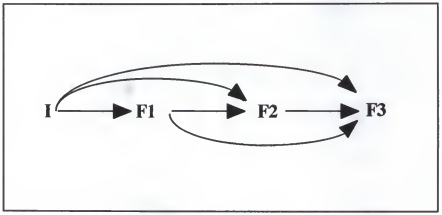


Figure 8: Transforming security

While it is possible to differentiate between levels of formal security offered, to what extent is it desirable to do so? Differentiation may be required for two reasons. First, because security is an economic good, the demand for it may change in accordance with its cost. Second, differentiation may be required because of problems associated with ripening of title and of lack of capacity. However, there are some strong reasons for a cautious approach to providing forms of graduated title.

First, consider the case where a scheme of graduated titles is implemented because of problems with lack of capacity. In the example above, this would mean that informal

ownership (I) cannot be transformed directly to conventional formal ownership (type F3). Providing a lesser form of formal ownership (type F1) makes sense only if a significant period exists between the time when ownership of type F1 is recognized and the time when that ownership is transformed to a higher level (F2 or F3). Below some time threshold, the costs of a two-step transformation (e.g., I to F1 to F3) may exceed the costs of a single transformation (e.g., I to F3). The time period for which it becomes cost effective not to have graduated titles will be affected by any measures taken to improve the supply-side of security (e.g., by reducing time requirements to prove possession, by reducing standards for certification, and by making use of external resources).

Second, many important benefits of formal property (e.g., credit) come only with fully marketable titles. Increasing the numbers of fully marketable titles provides greater opportunities for creditors and others to provide new ranges of services. Conversely, if the market is too thin, there will be limited competition among service providers who will not have incentives to change the way in which they do business. To what extent is there a need for differentiation in what constitutes fully marketable title?

Using the example above, ownership of types F2 and F3 both accommodate "high-level" needs; a person holding either type of ownership may be able to obtain credit secured against the ownership rights. If different standards are used to certify the two types of ownership (e.g., different requirements for surveying and identification of ownership), then a creditor may consider type F2 to be riskier than type F3 and so may provide credit under more onerous conditions to a person with ownership of type F2. In such a case, graduation of title has value if a creditor can rationally determine the differences in risk. Otherwise, differentiation may not add value. It is perhaps more likely that creditors accustomed to dealing with an existing formal system (e.g., one that only registers ownership of type F3) will have difficulty assessing risks associated with a new type of ownership (type F2), particularly if different standards of certification are adopted for type F2. This will be especially so if formal lenders such as banks base their risk assessment on

the input of the surveying and legal professions who provide certification for the existing type F3 ownership. These professions may provide the banks with valid concerns regarding the effect of reduced standards; alternatively, the input may be clouded by attempts to maintain professional monopolies.

Third, there is a danger that the beneficiaries of lesser forms of ownership may regard those titles as being inferior. The informal sector exists largely because of inappropriate formal institutions. People who live and work in the informal sector are, in effect, legally discriminated against. Formalization is an attempt to bring these people into the realm of the formal sector. Formalization projects that result in something less than full title may be seen as acts of continuing discrimination.

Information Component

An objective of a registration system is to reduce asymmetry of information between transacting parties. Of importance is the quality of information: to be effective it must be sufficient and accurate enough to provide the desired certainty. But having sufficient, accurate information is not enough; to be useful, such information and the associated certainty must be provided when it is needed. Business deals are often time-sensitive: a person such as a lender or prospective purchaser wishing to determine a property holder's claim to a parcel may need to make a decision within a certain period of time. If information cannot be retrieved quickly enough from a registry, transactions potentially beneficial to society may not be concluded.

Speed of retrieval is important but not enough if the search of registry records does not reveal pending applications for registration of transactions. This is particularly problematic if the process for registering instruments of transfer, mortgages, and other encumbrances is slow. If it takes say six months for a transaction to be registered, then a lender or purchaser may not be able to determine the status of property rights with a desired

level of certainty. Thus information validation issues, along with those of information retrieval, must be addressed if ambiguity is to be reduced.

It is possible for a registration system to have no substantive controls on incoming information but if certainty is to be increased, frivolous registrations should be avoided. Controls may implemented in various ways. Information may be certified by surveying and legal professionals and technicians prior to reaching the registry office. Certification by different categories of professionals and technicians may carry different weight, i.e., for different levels of titles. Information may be further validated within the registry office as part of the registration procedures. It is clear that security may be increased by introducing certification procedures but at issue here is the extent to which such procedures add unnecessary costs, e.g., by examining aspects which add nothing to security, and by duplicating certification of documents (i.e., certifying them before and after they enter the registration system).

Quality of information, and hence security, is not only dependent upon formal levels of certification. Information can be improved considerably through technical efforts to reduce ambiguity, for example, by adopting a parcel-based system (rather than a grantor/grantor-based system) and using appropriate computer technology to speed information retrieval and processing of transactions. Standardizing and simplifying procedures, forms, and terminology may go a long way to reducing the chance of errors. For example, standardized forms should result in information (such as whether the property rights are held by one person or by a married couple) being easily located. Standardized terminology should make the information more easily understandable, especially to the lay person. (The New Brunswick Standard Forms of Conveyancing Act, for example, accepted the single word "conveys" in place of some forty or so words previously commonly used in deeds to express the same meaning.) And contrary to a commonly held view of seeing a registry office as a repository of a complete set of

information, requiring only the minimum of information may introduce additional efficiencies (for example, in the case of notice-based filing).

A comprehensive set of technical and administrative reforms may thus enable certification requirements to be reduced without suffering a loss in security, and indeed, may actually increase confidence in the quality of information.

Protection Component

While information mechanisms of security are employed to reduce the frequency of conflicts occurring, protection mechanisms are used to manage conflicts that do arise. In simple terms, conflicts may occur because of problems relating to the identification of those who hold particular rights to the parcel, and to the identification of the parcel and its boundaries.

One aspect of the protection component concerns processes for managing disputes. Processes may allow for the presence (or absence) of third parties, for example, an agreement reached by the disputants themselves; a decision involving the local community organization; or a decision taken by parties external to the community (e.g., the courts). Here a trade-off exists between the level of local knowledge employed and an assumed level of objectivity coming from disinterested persons. Processes may vary regarding the power balance between the participants, for example using mediators, arbitrators, or the judiciary. Disputants are more likely to accept resolutions they perceive as being "fair" even if they are unhappy with the result. In a democratic society this lends weight to the view that the system is legitimate. However, processes appropriate in one context may not be suitable in others. That is, what constitutes due process should not be determined solely by technical means but should be informed by other factors including locally accepted rules. Nonetheless, the rapid settlement of disputes at low cost should be an objective since lengthy delays create uncertainty regarding the property, and excessive costs associated with protracted proceedings exclude the majority in a low-income country from

formal protection. As a result, efficient administrative procedures to resolve doubt and dispute may result in increased security.

A second aspect of the protection component concerns the outcome of conflict management processes. To what extent is a person protected by guarantees? At the lowest level, a registration system may operate under a rule that a registered instrument has priority over an unregistered one in general, but that the priority obtained by registration can still be defeated by actual knowledge of a prior, unregistered interest or an interest registered later but executed earlier. At a higher level, greater reliance may be placed on information in a registration system by basing priority on the order in which interests are registered and avoiding the issue of actual knowledge. At a level above that, the contents of the register may be guaranteed in that no rectification of the register may be allowed against a bona fide purchaser who is in possession and who had no knowledge of the fraud or mistake upon which the claim for rectification is based (S.R. Simpson 1976, 179).

In negative types of systems, transfer and vesting are effected by the owner in the sales contract. In positive systems, the transfer and vesting of ownership are effected by the act of registration. As Simpson notes:

> The idea that the register show not merely that A signed a deed purporting to transfer property to B, but the further fact that the property was thereby taken out of A and vested in B is so simple and obvious that it is astonishing that it was not adopted before in those many jurisdictions where the Government was granting land on unchallengable titles, and so there was no problem of initial investigation. To remain good, such titles only had to be maintained; a lengthy effective record of subsequent dealing was all that was needed. (S.R. Simpson 1976, 76).

The theme of indemnity runs closely with that of guarantee, or reliability of the registration system. If transfer takes place by virtue of the government action of registration, then the government assumes responsibility if things go wrong. Those who are deprived of interests which they would have were it not for registration should be entitled to compensation from public funds. Where the government assumes a lesser responsibility for the registration system, it may limit its liability exposure or provide no indemnity coverage at all. In such cases, injured parties may be forced to claim against

their professional consultants or, in the case of the U.S.A., against their title insurance companies.

Relationship Between the Information and Protection Components

Of importance in risk management is the speed and ease with which a person suffering loss as a result of registration can recover damages. In some jurisdictions, the only recourse a person may have is to claim against the property professional who was involved with the transaction. Such a remedy may place responsibility where it belongs but may be unsatisfactory for several reasons. The proceedings tend to be adversarial. The injured party may have to take action against a property professional based in a distant city. The property professional may be unable to pay for a variety of reasons (including death). And the loss may result for some reason other than the property professional's negligence.

For reasons such as these, the title insurance industry developed in the U.S.A., and as such, it provides a useful service there. To a large extent, the dominant position reached by the title insurance industry in the U.S.A. is not because of demand by owners but rather because lenders use it to shift risk away from themselves; virtually every mortgage means a sale of title insurance coverage. Consequently, even those buying land in American jurisdictions with Torrens-style systems end up paying for title insurance (ALTA 1978, 617). But establishing title insurance industries in countries with emerging market economies will be unproductive if those companies operate as they do in the U.S.A. As noted earlier, the major cost for title companies is maintaining databases of property information. Such private databases are redundant if the public registration systems are indexed as efficiently. If insurance coverage is provided against loss, then the cost of premiums should be reduced significantly: premiums will no longer be required to fund the full cost of operating the databases and covering losses; instead they need cover only the marginal costs of providing coverage.

This is indeed how state indemnity funds of Torrens-style systems are intended to function. However, the failure of such state systems, particularly in the U.S.A., to have sufficient funds to cover claims is well documented. This is somewhat ironic since the development of the secondary mortgage market in the U.S.A. is based on federal guarantees which, in turn, are funded by charges levied against participants in the system. The development of national land and credit markets, and in particular, secondary mortgage markets, is dependent on investors being indemnified, at low cost, in case of loss. Such indemnification may be provided by private or private funds, or some combination thereof. To be cost-effective, an insurance system should complement, rather than duplicate, a registration system.

From a risk management perspective, the information component of security cannot be separated from the protection component. A rational person will not provide coverage against loss if the chance of loss occurring is excessively high. Property professionals, state registry offices, or title insurance companies minimize the risk of loss (i.e., reduce the frequency and severity of claims) by examining the quality of information about ownership and the parcels. They will, in fact, only accept responsibility for cases in which they believe losses are unlikely to occur. In other words, the better the information one has, the easier it is to offer protection in case of loss.

Thus in practical terms, there may be no difference between a positive registration system which has a divesting effect and a negative system which provides evidence of such transfer and vesting. Both types of systems require similar quality of information in order to function well. Consequently it may be more cost-effective for jurisdictions with negative, evidentiary systems to introduce administrative and technical reforms that improve the quality of information rather than attempt to transform those systems into positive ones.

From a risk management perspective, quality of information may be improved using several approaches. First, rather than examining information to identify all defects,

examinations may be reduced to identifying only those defects that present a likelihood of giving rise to a claim. In other words, there is limited value in using resources to identify purely technical defects that are unlikely to change the outcome of registration. Second, facilitating examination of registered information by the public at large can serve to minimize the effects of omissions, fraud, or mistakes not caught before registration. If problems are identified quickly, they may be resolved before the problem is compounded by other actions. Problems may be identified quickly if transactions are registered in a speedy manner and if it is easy for people to obtain information regarding those new registrations. Third, providing an efficient system will encourage people to use the registry. A necessary condition of quality of information is that it is current. Registry information is accurate for only as long as it reflects reality. If changes in ownership or parcel boundaries (for example through subdivision) are not reflected in the registry system, then existing registered information loses its value.

Rating the Product of Security

Earlier in this chapter, the concept of differentiating security was analyzed in terms of discrete categories, for example, different levels of title each with distinct rights and backed by different levels of protection. Within such a categorization, the quality of titles within a particular level are not homogenous. For example, even in a positive registration system, registration of ownership of a parcel for which a claim of adverse possession is being prepared does not carry the same security as registration of ownership of a person in possession of the parcel.

Because factors change continuously, there may be merit in establishing a methodology of variable differentiation of particular types of titles. For example, a rating system may be used to assess the changing quality of ownership and parcel information and associated protection. That is, ownership and parcels may be rated in a similar manner to that in which bonds, etc., are rated in terms of risk of investment.

Increasing Security Through Increased Use of the Registration System

Registration of interests in property may be regarded as essential for social and economic development. As Nichols argued, by viewing land registration from an information perspective, registration systems can be designed more effectively to address land management requirements. That is, effective management of land tenure information can create linkages between people and the land, private and public interests, and economic development and environmental protection (Nichols 1993, 203). Moreover, effective management of property information affects the nature and extent of protection that can or should be afforded to holders of property interests.

If people are to rely upon property information, they must perceive that information to be of sufficient quality for their purposes. The quality of information is dependent on the identification of interests, the holders of those interests, and the objects in which the interests are held. Identification has many attributes, many of which are important, but one that often receives little attention is the temporal attribute. Indeed, it may be commonly viewed, as S.R. Simpson (1976, 188) did, that "compiling the register is the real difficulty; maintaining it once it has been compiled is simple by comparison". Notwithstanding the apparent simplicity of updating information, as indicated earlier there is abundant literature describing registration systems holding out-of-date information. The remainder of this section analyzes how people can be encouraged to register transactions after properties have been formalized.

Incentives and Sanctions

Government directives and sanctions represents one approach to encouraging people to use registration systems. However, this research suggests that formal property registers cannot be maintained and updated relying only on such an approach. Making registration compulsory will not necessarily result in transactions being registered. The demand for security may decrease as income declines and, as Chapter 4 shows, a person

may obtain security from a number of sources, for example, community, political, legal, and coercive organizations.

It is assumed that a rational person will seek a strategy of risk optimization by employing the full set of measures available, and not just the subset of legal measures. As costs of formal (i.e., legal) security rise, a person will seek informal forms of security which may be inferior but nevertheless are cost-effective in terms of the resources of that person. If the marginal costs of legal security rise above the perceived marginal benefits, an owner of a parcel for which records already exist in the public registry may decide not to register his or her purchase transaction. Consequently, ownership of the parcel may slip from the formal realm to the informal one. If direct government sanctions and directives cannot be relied upon, what indirect mechanism of ensuring registration of transfers is feasible?

This research suggests that a prospective buyer's wish for formal property rights may provide an incentive, but not a strong one, for a current informal owner to formalize his or her property rights in order to make a sale. A prospective buyer of such informal property rights has two options. In the first scenario, the prospective buyer exerts pressure on the owner to register his or her purchase. The public record afforded by such registration reduces information asymmetry. The resulting increase in security comes at the cost of registration and will be represented in a higher price. In the second scenario, the prospective buyer eschews formal screening mechanisms in favor of informal ones. The buyer accepts lower security but gains the property at a lower price. If the buyer and seller are of the same economic class, they may tend to perceive the marginal benefits and costs in the same way. That is, if the current owner fails to register his or her property rights, it is likely that a new owner will do likewise. A more probable incentive for registering the transfer of real property may be the availability of credit and this is described below.

Role of Credit as an Incentive

Access to credit provides a powerful incentive to register one's property rights. It is plausible that a substantial number of home owners in high income countries register their property rights, not because they recognize that registration provides security against the claims of third parties, but because their creditors demand it as a condition for giving the loans needed to purchase those homes. The potential power of credit to drive the updating of registry information can be illustrated by personal property registration systems. A personal property registry functions solely as a debtor's register. Its raison d'être is to provide security to lenders. It does not provide security to the owner of the collateral, nor is its use mandated by government. Owners use it because lenders require them to do so.

A land registry functions as a debtor's register as well as an owner's register. If lenders have a similar need for a debtor's register in a land registry as they do in a personal property registry, then the debtor's register in the land registry will drive the updating of the owner's register. As a registration system grows more efficient, it becomes cost effective to register smaller mortgages. This, in turn, increases the value of the registration system to those with lower incomes. The research thus suggests that providing commercial enterprises with opportunities to profit from extending secured credit in relatively small amounts will increase the number of people who will register future changes in ownership and so keep the registry records current.

The detailed analyses of the Thailand titling and registration project provides some support for the important role of credit. Feder et al. (1988, 148) concluded that "providing full legal ownership to farmers who lack such status—that is, squatters—brings a very high economic return in most areas studied: the benefits far outweigh the relatively small costs of certifying legal ownership". Most of the impact resulted from increased access by farmers to formal credit because they had formal titles, rather than the elimination of risks of security to land rights of farmers. This was, in part, because squatters enjoyed

considerable security since eviction by the state would have been politically costly (Feder and Feeny 1991, 145). Of course, the literature is replete with examples of failed credit schemes. In many cases, the projects may have been inadvisable. As Shipton (1992, 381), a staunch opponent of titling and registration schemes in Africa, noted, institutional lenders have not sufficiently recognized that credit is debt and that rural people have many other debts and obligations already. And it is clear that the formalization of property alone will not lead to the development of active rural markets (Bruce et al. 1993, 255). But when people can afford debt financing, it enables them to make a significant difference to their lives.

As the points above illustrate, in low-income countries attention has focused on providing credit in rural areas. Farmers have been perceived to be users of credit for production whereas urban dwellers are regarded as wanting credit for consumption. A shift away from an exclusive focus on rural areas is desirable as the Peruvian case study illustrates.

If access to credit is going to serve as an incentive, transaction costs in the registration system must be attractive to lenders. The Peruvian case study underscores the importance of having a cost-effective registration system. By lowering the costs of doing business, a registration system can increase the volume of business of lenders. This may induce some investors to invest, together with the state, in increasing the amount of formal property. Access to credit, in turn, gives an incentive to increasing numbers of people to register their ownership when taking transfer of property rights.

Credit-Oriented Formalization

Assigning Priorities for Registration Services

Conventional wisdom holds that registration must be both desirable and practicable. This is perhaps best embodied in the 1956 Arusha conference statement that registration should not be undertaken unless:

1. It has a reasonable measure of support and is not opposed by any substantial proportion of the persons whose land will form the subject of the record.
2. The requisite staff and organizational ability with which to set up, and operate continuously, the working records of the system are available.
3. Adequate survey facilities are available to carry out cadastral work of the required accuracy.
4. The expense and complexity of the operation embarked upon are fully appreciated.
5. The areas of land within which adjudication and registration are to be initiated are recognizable and definable. (S.R. Simpson 1976, 231).

The view that registration activities should be sustainable is implied within these statements.

This research suggests that the issue of sustainability should be made more explicit by placing increased emphasis on areas which have a potential demand for credit. As argued above, access to credit represents an important incentive for people to register transactions.

Furthermore, increased emphasis should be placed on formalizing people in urban areas. In large part, this increased emphasis is required simply because of increasing urbanization. Not only is the percentage of urban-dwellers increasing, the actual number of rural-dwellers in the world is expected to decline after the year 2015 (United Nations 1994, 28). In the case of Peru, where over 72 percent of the population is urbanized, the number of people living in rural areas is expected to start declining after the year 2000 (United Nations, 85, 101). Focusing exclusively on the rural populations of low-income countries

makes limited sense in cases where the role of agriculture is diminishing. Increasing emphasis on urban areas is required as commercial and industrial activities, even at the level of micro-entrepreneurs, play increasingly important roles in the growth of the economy. Yet despite Peru's demographic trends and the recent demonstrated benefits of formalization in Lima's informal urban settlements, multi-lateral financial agencies and the Peruvian Government have targeted formalization of rural areas as a priority. Urban areas are given scant consideration.

It is not suggested that this recommended emphasis on credit and urban areas be exclusive. The importance of formalization for other purposes is not disregarded. For example, it may be necessary to title and register property rights held by "indigenous communities" so that they can better defend themselves against invasions by others. And of course, credit is important in rural areas for agricultural purposes; food production is strategically important. Moreover, access to credit allows farmers to diversify, for example by establishing shops, acquiring tractors for the farmers' own use and to hire to neighbors, or acquiring mini-vans to provide rural transportation services. (Such diversification strategies were employed by some farmers who obtained credit as a result of becoming registered owners in the Peruvian case study.) Furthermore, a rigid distinction between urban and rural property is not feasible since rural land is often converted to urban purposes as cities expand.

The suggestion that emphasis be placed on urban areas with a need for credit is based on an assumption that registration systems operate under some variation of the 80/20 rule. That is, a registry office having to deal with the full universe of types of property transactions will be required to allocate a disproportionate amount of resources to some types compared with others. In other words, there is a maldistribution of effort and resources. However, if in the early stages of formalization a registry office can concentrate on the types of property transactions that require the least resources, greater efficiencies can be obtained.

The premise that decentralized registry offices can provide a more responsive service to registry clients than can a single centralized office in a country implies that there is an upper limit to the geographic area served by any office. Since urban parcels tend to be smaller than rural ones, a registry office serving a predominantly urban area will be responsible for more parcels than an office serving a mainly rural area of similar size. A registry serving more people will tend to have a larger number of transactions; as revenues derived from transaction fees increase, the level of subsidy required to maintain the office can be reduced. Conversely, it is more difficult for a registry with a low number of transactions to support itself. Moreover, the increased density of people in urban areas provides more business opportunities for service providers such as creditors. Increasing volumes of business may result in credit being provided on a more competitive basis as new lenders are encouraged to enter the market. Increased access to credit should, in turn, encourage increased use of the registry system.

From an economic perspective, a registry office would be able to address the types of property transactions which require a disproportionate amount of resources once those that require fewer resources have been accommodated. In a sense, the efficient types are used to subsidize registration of inefficient types. In practice though, political concerns may result in registration of property without credit potential at an earlier stage.

Some Implications of a Credit-Oriented Land Registration System

A rosy picture may be painted of credit-supported growth arising because of the existence of formal property. A micro-entrepreneur may purchase equipment or inventory by using newly formalized property rights to the family home to obtain credit secured by a mortgage registered in the land registration system. As the informal enterprise grows, the entrepreneur formalizes the business operations by registering it as a legal corporation in the company registration system. The entrepreneur is then in a position to obtain additional credit for growth by using the equipment or inventory as secured interests registered in a

personal property registration system. The society's tax-base grows along with the number of formally registered companies thus allowing the state to provide more services.

And when people can build better homes using property rights in land as collateral to secure loans, property values rise. At some stage it becomes cost-effective to implement a parcel assessment and taxation system. The increased tax-base allows the local government to fund improvements such as paved roads, street-lighting, and sewerage systems which assist in further raising property values. As a land market develops, it becomes possible to base parcel assessments on market prices rather than relying on shadow prices.

It is clear that a "virtuous circle" such as that described above does not automatically follow a formalization project. As noted earlier, critics of titling and registration schemes have been quick to point out two major failings of projects around the world: despite the promises, newly registered owners are not able to obtain credit, and subsequent sales transactions are not registered.

This research suggests that the issue of registration and credit is not a "chicken and egg" problem. Instead, registration and credit are mutually-reinforcing and this should be reflected in the design of a registration system from the start. In other words, access to credit must facilitate updating of information in the registration system, and the registration system must facilitate access to credit. The Peruvian case study illustrates that this is feasible, even in a low income country in the midst of political, economic, and social turmoil, if the transaction costs of a registration system are low enough to make business profitable for commercial lenders. Designing and implementing a land registration system having low transaction costs may require extensive changes to property legislation in order to remove legal and administrative obstacles. To be effective, a system may require extensive changes in other areas as well.

Addressing the need for credit, and particularly credit in urban areas, may require changes in areas not usually considered when designing titling and registration projects.

For example, jurisdictions accustomed to dealing with their formal sectors may place legal restrictions on when mortgagees can disburse funds (e.g., in stages when foundations, walls, and roofing are completed) and only after public officials have certified that the construction satisfies building regulations. Such standards are not necessarily conducive to satisfactorily addressing housing problems when the majority of the population lives in informal settlements. Safe buildings are important and presumably no residents would wish for their homes to collapse; after all, they are replacing their existing flimsy dwellings with more robust ones. Nonetheless, in the short-term there may be merit in accepting standards where buildings are not designed to last for a life-time but rather for one generation, so allowing buildings to be reconstructed to meet the needs of future owners.

Zoning provides another example of where changes may be required. Formal zoning plans frequently bar commercial or light-industrial activities from residential neighborhoods. This ignores the reality of informal sector economics: many entrepreneurs operate businesses from their homes, for example, running convenience stores, carpentry workshops, etc.

And to further increase the chances that credit and registration coexist, there is a need to develop wide-spread linkages which are not usually considered when designing a titling and registration project. These linkages are discussed below.

A Credit-Oriented Network of Property Institutions

Screening requirements of creditors, in general, exceed those of purchasers. A network of property institutions that works efficiently for a credit market will satisfy the information requirements of a land market.

Rational creditors base their risk assessment on the answers to five main questions (see Chapter 4):

1. Are the borrower's assets sufficient to pay the up-front costs of the loan?

2. Is the borrower's income sufficient to pay the interest and principal amount of the borrowed money?
3. Does the borrower's credit history reflect a willingness to meet the required debt obligations?
4. What is the market value of the collateral relative to the loan amount?
5. How good is the borrower's claim to the collateral?

Reforming a land registration system so that it provides answers easily to one of these questions (and so that it affords cost-effective protection to lenders in case of default) can have a significant effect as the Peruvian case study illustrates. However, access to credit must be viewed in terms of the entire process of granting credit. Reducing information asymmetry in one aspect may not significantly reduce the total risk to a lender if information regarding other aspects is missing. The cost of credit will remain high if lenders continue to incur significant screening costs even after the establishment of a land registration system. Figure 9 illustrates one approach to arranging property institutions to address a creditor's dilemma.

Improved information services are essential but they do not address all problems. Improved financial services may also be necessary. Providing adequate housing for the large numbers of people who lack such comforts is often regarded as a priority by governments of low income countries. The costs of providing such housing can be high compared with the resources of the state and those of private sector creditors in the primary credit market. Additional funds for housing markets may be obtained from new investors if secondary mortgage markets can exist.

This research indicates that the development of secondary mortgage markets may be feasible in low income countries. As noted in Chapter 5, a Peruvian consumer credit company intends to package its loans and resell them in a secondary mortgage market to raise capital for additional loans. For such a procedure to be attractive to investors, the loans must be provided in large numbers and must be appropriately collateralized. It is for this reason that the company sponsored efforts to increase the number of parcels registered

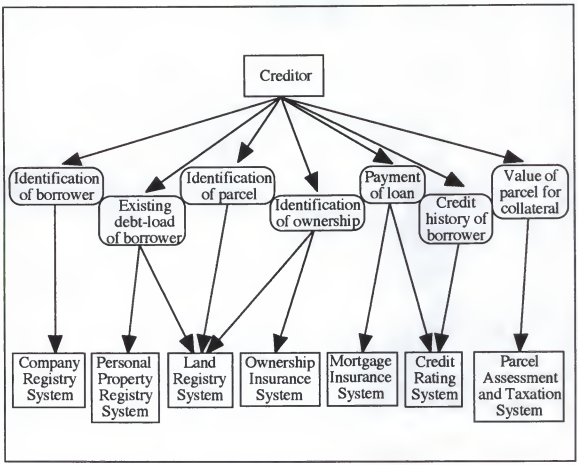


Figure 9: Creditor-oriented property institutions

in the *Registro Predial*, and hence the number of potential borrowers. It also may be possible for lenders to raise additional funds by issuing mortgage-backed securities, i.e., the loans are not sold but pledged as collateral to back a securities issue. Some countries such as Peru have established pension funds regulated by the government but administered by private sector financial companies. Mortgage-backed securities may represent low-risk investments for such pension funds provided the investments are protected in various ways. Such protection may be provided through state insurance programs (e.g., South Africa's mortgage insurance scheme); by offering reserves to back the securities (perhaps along the lines of Nicaragua's proposal to back its compensation bonds to pay for land

expropriations with American Treasury bills); through private sector insurance programs that simplify the recovery of losses without having to file law suits against property professionals in distant cities (perhaps along the lines of the broad coverage provided by the American titles insurance industry but without the duplication of information systems); and by private sector issuers of securities overcollateralizing the security offering or establishing cash reserves.

This research suggests that the deliberate design of a network of property institutions may facilitate development in countries with emerging market economies more rapidly than if the linkages of those institutions were left to chance. Figure 10 provides a schematic representation of such a network of property institutions. The network integrates information and financial services. Institutions dealing with information services can be clustered into three main groups: registries, courts, and ratings. Those dealing with financial services are in two main groups: insurance and credit.

The registry systems contain official, public information systems relating to various forms of property. A land registry represents an owner's and debtor's registry with information on certain rights, the holders of those rights, and the parcels of land in which those rights are held. By organizing a land registry primarily around parcels rather than people, information can be managed more efficiently and effectively thus reducing risk. A personal property registry functions as a debtor's registry and also includes information on rights, holders, and objects serving as collateral. Because of its nature, a personal property registry must be organized around people, i.e., the debtors. It is thus a useful register for recording floating charges arising from court actions. By linking registries for land and personal property, an interested person such as a creditor can more easily determine the existing debt-load of a potential borrower.

A company registry provides information about incorporated businesses. By linking a company registry with registries for land and personal property, officials registering ownership and encumbrance transactions can ascertain more easily the

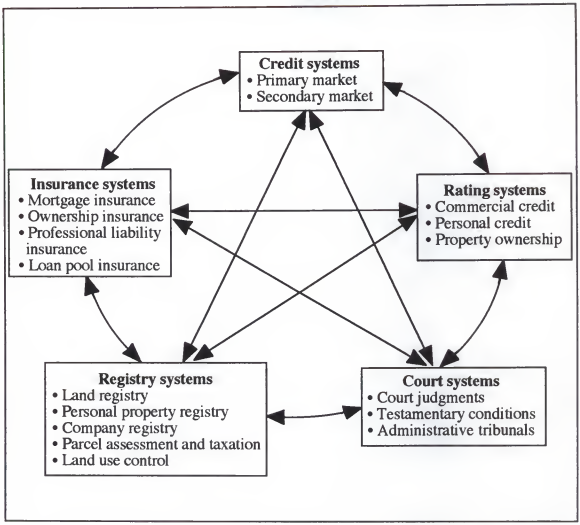


Figure 10: Network of property institutions

identification of corporate parties, for example, who has been designated authority for signing on behalf of the company. There is another reason for including an efficient company registration system within the framework. An efficient land registration system makes it possible for micro-entrepreneurs to raise capital for their businesses by mortgaging their property rights. Society can benefit if these informal businesses are formalized.

Two other public information systems are included (though they do not function as official registers in the sense that the other three registries do). One of these systems

addresses parcel assessment and taxation. As land values increase, it becomes feasible to introduce a land taxation system. And as the land market develops, it is possible to base parcel assessments on market values (as New Brunswick now does) rather than calculating shadow prices. This would allow interested parties such as creditors to more easily determine the value of the collateral offered by a borrower. The other information system includes data on land use controls (such as zoning) which limit the rights of owners.

In many cases, instruments which affect the status of ownership and charges are lodged directly with the land and personal property registries. In other cases, the registries must respond to changes that initiate elsewhere. Some changes are involuntary and arise from court judgments concerning for example, property tax liens, income tax liens, and mechanics' liens. Some changes arise when individuals impose their own conditions through wills. Yet other changes may result from administrative tribunals, mediation, arbitration, etc., which may be established to resolve doubt and disputes regarding boundary and ownership claims.

Rating systems are information systems like registry systems but with important differences. Rating systems provide information regarding risk assessments. Commercial credit ratings systems draw on information in the registry systems (for example, to determine debt, assets, and court judgments) along with information on companies' track records for repaying loans. Personal credit rating systems perform a similar function for individuals. It is common in low income countries for a borrower to take considerable time to build up a credit history with a lender; because of information asymmetry between lenders, it is difficult for the borrower to obtain credit from other lenders. Commonly accessible credit rating systems reduces screening costs for lenders.

There may be value in including a third type of rating system which assesses ownership and parcel information. This research suggests that while it is important to examine registry information, it is also important that the examination process is not a lengthy one. In other words, it will be impossible to eliminate all risk regarding the validity

of registered information. This may be especially true in the early days of formalization in a country should there be a shortage of skilled personal. The risk associated with property information that is incomplete or of variable standards may be rated in a property ownership rating system.

The first type of financial service is related to insurance. The insurance group of systems addresses the need for compensation if and when losses occur. Underwriters draw on information provided through the registry, court, and rating systems, along with information from other sources, to assess financial aspects of risk. A number of types of insurance may be provided. Mortgage insurance covers the likelihood that the borrower will default on repayment. Ownership insurance provides coverage if the borrower turns out not to be the owner of the parcel used as collateral. (Ownership insurance is considered here to provide the conveniences of American title insurance without the drawbacks arising from operating in jurisdictions which have inefficiently indexed public records and which have rules of priority that create uncertainty (e.g., where order of registration can be defeated by actual knowledge of a prior but unregistered interest). For this reason it is referred to as ownership insurance rather than title insurance.) Ownership insurance may be supplemented or replaced by professional liability insurance if negligence of a property professional resulted in the loss. Mortgage, ownership, and professional liability insurance serve to bring confidence to creditors in the primary credit market and investors in the secondary market. Loan pool insurance is specifically for the secondary market and backs up pools of mortgages used to back security issues. All these types of insurance can be offered by the public sector, the private sector, or in some combination.

The final group of systems is where the money is. Primary market lenders provide loans secured by collateral and registered in land or personal property registries to approved borrowers. Primary market lenders may be traditional intermediaries such as banks but non-traditional lenders such as consumer credit companies may have a large role to play. A secondary market may improve liquidity of the primary mortgage market in two ways.

First, originators of primary market loans may sell the mortgages in the secondary market to obtain money to make more loans. Loan originators benefit from increasing the number of loans they make since they derive mortgage investment income from origination and collection fees and not just from interest charged on loans. Second, loan originators, rather than selling the mortgages, may use them to leverage additional funds by creating pools of mortgages to back security issues that are sold in the secondary market. If the risk related to mortgage-backed securities can be reduced to an investment-grade quality, then large investors such as pension funds may funnel substantial amounts of money back to primary lenders who can then make more loans to home owners.

CHAPTER 7
CONCLUSIONS

Research Problem and Approach

Property is a powerful institution that a society weaves through its legal, economic, and political systems. In high income countries, formal property appears to bring considerable benefits. Public access to registries reduces information asymmetry that may exist between transacting parties while the protection afforded by various property systems gives parties confidence that their interests will be safeguarded. Governments in high income countries also benefit: access to property information enables administrations to improve decision-making (for example, by protecting environmental resources) and to implement revenue-generating services (such taxing ownership of land parcels). Governments also benefit from increased certainty, for example, that they will be able to enforce the collection of taxes (by taxing the right people) and to enforce land use regulations on users of specific land parcels.

Much property in low income countries is held informally, that is, outside the formal legal, economic and political sectors of society. In the context of this research, informal property interests lack official recognition and protection; they do not appear in formally recognized public registers. Despite the expenditure of billions of dollars to formalize property in low income countries over the past decades, there has been only limited success. In many cases, supposed benefits such as increased access to credit do not appear after properties have been titled and registered. At times the registries themselves are not kept up-to-date. Subsequent transactions involving a change in ownership (e.g., through sales or inheritance) or in the parcel (e.g., through subdivision) are not submitted

to the registries. As the information in the registries becomes out-dated, its value to decision-makers in the private sector and government declines.

This research addresses a problem central to the on-going success of registration projects in low income countries: how can registration systems be maintained so that the initial investment in their construction is not lost but instead grows. Chapter 2 addressed the question of what the role and nature of property interests is in low income countries. Chapter 3 responded to the question of how property interests may be organized and administered. Chapter 4 sought to answer the question of how institutions and administrative arrangements provide certainty. Chapter 5 addressed the question of whether a registration system can be responsive to the needs of property owners with low incomes but yet still provide adequate certainty to creditors. Chapter 6 responded to the question of how incentives can be provided to ensure that registration systems are updated.

The research provides an original contribution through its two-pronged approach to addressing these problems. On the one hand, the problem of maintaining registration systems is framed in terms of formal and informal property. That is, what does a transformation from informal-to-formal property mean? On the other hand, the research is organized around issues of security and risk management. How do risks change when informal property is formalized? By using this approach, the analysis identifies a number of shifts which should be made to conventional thinking regarding titling and registration.

Recommended Shifts Identified in the Research

The first shift in thinking is that up-dating of registries should be driven by incentives and not sanctions. This research suggests that ensuring currency of registries and providing benefits of registration are interrelated. A person draws security from a number of sources: from the community, polity, legal system, and coercive organizations. Because of transaction costs, increasing legal security is not free. These costs must be weighed, not just against the increase gained in legal security, but against the change in net

security enjoyed by the owner. Making registration compulsory will not necessarily result in up-to-date information. If transaction costs are perceived to be too high compared with the marginal benefits gained, enacting laws mandating registration will only serve to make transactions informal. A carrot rather than a stick is required.

The second shift is that improving access to credit is a key mechanism to the maintenance of land registration systems. That is, the carrot is credit. Credit is often a stronger incentive than the desire for assurance against eviction because ownership may be protected by extra-legal sources of security. The power of credit as an incentive can be illustrated by a personal property registration system which is, in essence, a debtor's register that exists as a risk management tool for creditors. A land registration system functions as a owner's register and a debtor's register; the research suggests that the debtor's register function be designed to drive the updating of the owner's register. Conventional land registration systems were designed to accommodate government agencies. When the problem of failure to register transfer transactions was identified, some consideration was given to the effect of transaction costs on owners. Owners, however, are a heterogeneous group and it becomes difficult to assess risks and benefits. On the other hand, it is much easier for creditors to determine the point at which a land registration system reduces their costs of screening, providing incentives, monitoring, and enforcing in case of default.

A land registration system that can protect the secured interests of creditors will be likely to meet the needs of government agencies and individuals as well. If a person is able to get credit secured by means of a registered mortgage, then that person will be inclined to register ownership when taking transfer of a parcel. To facilitate updating of a land registry, the registry must be designed to facilitate access to credit.

The third shift is that property administration should be viewed comprehensively, i.e., land registration systems should not be regarded in isolation from personal property registration systems. Links between real and personal property systems are important for

several reasons. First, linkages between land and personal property registration systems help creditors and others determine more easily the existing debt-load of borrowers. Parcel-based land registration systems have been recommended in this analysis because they can be used to manage information more efficiently than grantor-grantee systems. A parcel-based system, however, is not well suited for managing floating charges. Such charges are easily handled by a personal property registration system. Second, both real and personal property registration systems are needed to facilitate commercial development. As noted earlier, loans secured by mortgages registered in land registration systems play an important role in the creation of new businesses. As businesses grow, mortgage-based financing plays a smaller role. Instead, businesses turn to personal property (e.g., equipment, inventory, accounts receivables, etc.) to finance expansion and other commitments. Land and personal property registration systems should be harmonized to meet various credit needs of businesses.

The fourth shift is that a land registration system (and a personal property registration system) should be linked to other property systems to ensure that the provision of credit can be sustained. Funds must be replenished primarily through the local market; foreign donors cannot be relied upon. Sustainable credit is dependent on the provision of business opportunities to local organizations. In other words, creditors must be well positioned to give credit. A land registration system reduces screening costs for identifying the parcel offered as collateral and its ownership. If the costs of screening other information is high, credit may still be rationed, thus limiting the return on investment of establishing the land registration system. Linkages should be established to other registry and rating information systems. Various forms of insurance are needed to enable risk to be shifted or distributed, and linkages should be provided to relevant insurance systems.

The fifth shift is that land registration projects should place greater emphasis on urban areas. In part, this shift is required because increasing percentages of the population in low income countries live in urban areas; in some jurisdictions the actual number of rural

dwellers is starting to decline. Focusing exclusively on rural-biased registration and credit programs is of questionable value in light of this demographic shift. Large urban populations offers creditors substantial numbers of potential clients, especially so when the collateral offered has been standardized through registration in a land registry office. Credit schemes have usually been devoted to rural areas since farmers were perceived to be the only ones who require credit for production purposes. However, entrepreneurs in the urban informal sector also have a demand for credit for production purposes and it is likely that this demand will increase as economies of low income countries shift from rural to urban production. Moreover, urban areas have a growing demand for credit for home improvements, for example, to protect against families against weather and burglars. Unlike credit for other consumption purposes (e.g., electronic goods), the effect is to improve the value of a family's assets of property rights in land. In such cases, credit for consumption purposes can provide important social and economic benefits.

And this leads to the sixth shift: the deliberate design of registration systems to buttress a secondary mortgage market. Countries facing rapid urbanization are squeezed between the need for citizens to live in adequate housing and the costs of providing such housing. The illiquidity of the primary mortgage market deters many investors and particularly those who are regulated. Liquidity can be improved through the development of a secondary mortgage market, and particularly one in which mortgage-backed securities are traded. If the associated risks can be managed so that those securities are rated as investment-grade, then regulated financial institutions such as newly created pension funds may be able to add potentially large sums of money to the housing market.

These recommendations do not disregard the need to formalize property for reasons other than credit and in areas other than urban settlements. Social justice by itself may be a powerful reason, for example, to formally recognize the claims of "indigenous communities" so they can defend themselves more effectively from actions of others. But it should be recognized that providing formalization services and managing registry offices

incur substantial costs. For the reasons identified above, it is suggested that registry offices serving urban areas with a need for credit will register a larger number of transactions than offices serving predominantly rural areas. As a result, urban registry offices should have greater revenues. Over time, a large number of urban transactions can be used to subsidize a smaller number of rural transactions.

Providing Cost-Effective Security

Risk management does not mean diminishing risk to its lowest possible level. Rather, risk management requires that the costs for escaping a loss should not be more than the cost of the loss itself. Transaction costs, always important, become increasingly so in low income countries. When people have low incomes, the value of loans given to them is correspondingly small regardless of how valuable the collateral is; ability to repay interest and principal is an important factor in the decision to grant the loan. Consequently, creditors will seek to secure their interests by means of registered mortgages only if the registration system operates efficiently.

Conversely, a land registration system will not be an attractive option if the costs of acquiring information and registering the mortgage represent a high percentage of the loan value or if the registration process is so slow that loans are repaid before the mortgage is registered. Moreover, a registration system will not be a useful risk management tool if it is time-consuming and expensive for a creditor to foreclose when a borrower defaults.

It is important for a registration system to operate efficiently. It is equally important that it contain a large number of relatively homogenous parcels and registered interests. Because loans have low value, the return to the creditor per loan is small. Large volumes of loans are needed to increase profitability. The number of potential clients increases as the number of registered owners grows. To improve business opportunities, it may be in the interest of lenders to help the state formalize property holdings. It is probable that such a scenario would have been dismissed as sheer speculation if it had not occurred in Peru.

The costs of giving credit can be reduced if the creditor has good knowledge of borrowers, i.e., people who until formalization lived, and perhaps still work, in the informal sector. Lenders in the formal sector (such as banks) may have no experience with these potential borrowers and they may face high costs for screening information on things other than collateral. The credit rating systems recommended in this research are intended to reduce some of the asymmetry of information but they might take time to implement. During initial periods, formal lenders may work with NGOs and others who have knowledge of the informal sector to reduce uncertainty. Other countries may benefit, as Peru did, by the involvement of lenders not usually considered when implementing registration systems: consumer credit companies which have extensive commercial dealings with the informal sector.

A risk management approach with an emphasis on low transaction costs implies certain considerations in the design of a land registration system. First, a registration system becomes an accurate reflection of reality when it is frequently used. On the one hand, registration of recent changes in ownership (e.g., sales and inheritances) and in parcels (e.g., subdivisions) ensures that the information is kept current. On the other hand, public access of the registers (and therefore public scrutiny of them) increases the possibility of errors in the register being identified at an early stage. Second, to encourage frequent use, a registration system must provide security as a product of its efficiency. Examinations of incoming documents are essential to maintain the integrity of the registers but examinations may create uncertainty and risk when they are time-consuming and burdensome. Efficient procedures for storing and retrieving information, for registering documents, for protecting interests (e.g., in cases of foreclosure), and for resolving doubt or disputes can reduce the need for elaborate examination procedures. Third, procedures can be made more efficient through the use of standardized forms and terminology, thus ensuring that people have a common understanding of what is happening and that information can be interpreted more quickly.

It is thus suggested that registration systems designed to provide a cost-effective approach to securing the interests of creditors should result in a design that encourages the updating of registries. The resulting current information becomes, and remains, a valuable input to decision-making by individual citizens, private sector companies, and government agencies.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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